

# NOVO<sup>TM</sup>

WATER CONDITIONING PRODUCTS



## PRODUCT CATALOG

Water Conditioning Products  
For the Plumbing Professional

# WATER CONDITIONING IS A BIG OPPORTUNITY TO IMPROVE YOUR BOTTOM LINE!

Turn opportunity into **Profit** with a dealer Program offering **REAL Value!**



**Water Conditioning** is a natural fit and an easy sell to your existing customers who are installing new plumbing, water heaters or water-using appliances. Adding more revenue per call with little additional cost means a *better bottom line!*

## The NOVO ProAdvantage™ Certified Dealer Program makes Water Conditioning easier than ever before:

- ➔ 1-800 Dealer Help Line
- ➔ 1-800 Consumer Help Line
- ➔ Certified Dealer Training
- ➔ Co-op Advertising Program
- ➔ Advertising Materials
- ➔ Showroom Displays
- ➔ Sales Literature & Tools
- ➔ Vehicle & Window Decals
- ➔ Product Recommendation
- ➔ Consumer Website
- ➔ Dealer Website
- ➔ Dealer Promotions
- ➔ Dealer Apparel
- ➔ Water Testing
- ➔ Monthly NovoPro E-News
- ➔ Dealer Advisory Council
- ➔ Novo Field Sales Managers Dedicated To Your Success!

**Interested?**

For more information visit:  
[www.novoproadvantage.com/plumber-login.asp](http://www.novoproadvantage.com/plumber-login.asp)



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# WELCOME TO NOVO



*"We believe that investment in products, a detailed focus on quality and recognizing the value of our people is the right foundation for the future"*

*Don Fettes*  
Don Fettes, President

I first started in the water conditioning industry in 1968 with a focus on growing and supporting the sale of water conditioning products through the Plumbing Trade.

Today our mission is the same – to provide plumbers and our wholesale partners with more value, features and support – constantly raising the bar and surpassing expectations!

When it comes to residential & commercial water treatment no one knows the industry better. Our Sales & Customer Service Team has more direct experience than any in the industry allowing them to offer you 'best in class' support.

We are committed to leading change bringing you modern designs, new features, great performance and unparalleled quality. Let us show you the difference Novo can make!

## DON'T LET YOUR CUSTOMERS SPEND GOOD MONEY FOR BAD RESULTS...

### Money Leaking Down The Drain?

Chlorine is a strong oxidant that quickly destroys rubber seals & gaskets in appliances and plumbing fixtures causing leaks. Chloramines attack pipes causing pinhole leaks in plumbing.

A **NovoClear 485 Whole-House Carbon Filter** protects plumbing and your customers from unwanted chlorine & chloramines.

#### Hard Water Damage

Hard water scale and curd will damage pipes, fixtures, water using appliances, water heaters, clothing, dishes, hair & skin.

A **NovoSoft 485 High-Efficiency Water Softener** is an affordable solution!

...FIX THE WATER THAT BROKE IT!



# SUPPORTING PLUMBING PROFESSIONALS

We understand that the plumbing trade is not always focused on the changes occurring in the water treatment industry. That is why we make sure that we provide all the important information the trade requires to make profiting from water treatment easy:

- ➔ Product & Application Training
- ➔ Field Representation
- ➔ Sales Support Material
- ➔ Water Testing
- ➔ Commercial Expertise
- ➔ E-Newsletters
- ➔ Knowledgeable Customer Service

### Effective Sales & Product Training Program

Novo 'hands on' training programs provide you and your staff with the knowledge needed to properly sell, apply, size, install and service Novo equipment.



### Industry Leaders in Customer Service

Novo Field Representatives work with your local plumbing wholesaler to provide you with the best products and support in the industry!

Our Customer Service Team & Commercial Engineering Group has over 250 Years combined Industry Experience.

The Industries Water Conditioning Experts are only ever a 1-800 call away.



Dean Dalrymple  
Customer Service Manager



Dave Pitman  
Commercial Engineering Manager



- ➔ Expert Technical Support
- ➔ Water Testing
- ➔ Product Selection & Sizing
- ➔ Order Placement
- ➔ Troubleshooting
- ➔ Specialized Commercial Engineering

### Free Professional Marketing Tools

- ➔ 9"x 4" Quad-fold Novo Solutions Brochures
- ➔ Protect Your Biggest Investment" In-Home -Sales Tools (Pipe Hangers & Brochure)
- ➔ Counter Water Sample Test Kit Display
- ➔ Laminated Softener Sizing Guides
- ➔ Posters / Banners





# WATER TESTING SERVICES

Recommending a proper solution starts with a water analysis. Novo labs in Regina, SK, Cambridge, ON, & Carmel, IN can test your water samples for:

- 1) Hardness

2) Iron

3) Manganese
- 4) pH

5) Tannins

6) TDS



**NOVO**  
WATER CONDITIONING PRODUCTS

**Water Analysis Report**

NOTE: Please answer ALL appropriate questions to ensure accurate equipment recommendations

CUSTOMER		DEALER		DISTRIBUTOR	
Name		Name		Name	
Street		Street		Street	
Town	State/Province	Town	State/Province	Town	State/Province
Zip Code/P.C.	Email	Zip Code/P.C.	Email	Zip Code/P.C.	Email
Phone	Fax	Phone	Fax	Phone	Fax

**Bacterial analysis must be performed by your local health department.**

**HOW TO DRAW WATER SAMPLE**  
Use outlet nearest pump (not from bottom of pressure tank).  
Run water for five minutes or two pump cycles, then fill clean bottle to neck and cap immediately. Never use hot water.  
Return bottle with this completed form.

**HOW TO MEASURE PUMPING RATE OF PUMP**  
Make certain no water is being drawn. Open spigot nearest pressure tank. When pump starts, close tap and measure \_\_\_\_\_ seconds to refill pressure tank. This is cycle time.  
\_\_\_\_\_ Gallons of known volume, draw water and measure volume in gallons until pump starts again. This is drawdown.  
3. Divide drawdown by cycle time and multiply the result by 60 to arrive at the pumping rate in gallons per minute. Insert this figure in #5 Water System.

**1. Water Source**  
☐ City or area water authority  
☐ Community water system (small water system usually supplying 12 homes or fewer)  
Water comes from:  
☐ Well ☐ Lake ☐ Reservoir ☐ River ☐ Unknown  
☐ New private well - Approx age \_\_\_\_\_ months  
☐ Old private well - Approx age \_\_\_\_\_ months  
☐ Private lake ☐ Private spring ☐ Private dugout  
☐ Private stream ☐ Other - describe \_\_\_\_\_

**2. Household Information**  
Do you have raw water conditioning equipment?  
☐ No ☐ Yes Type \_\_\_\_\_ Size \_\_\_\_\_  
☐ Single family ☐ Multi-family No. of units \_\_\_\_\_  
No. persons \_\_\_\_\_ No. baths \_\_\_\_\_  
☐ Lawn irrigator on water system? \_\_\_\_\_ gallons  
☐ Indoor pool ☐ Outdoor pool - Capacity \_\_\_\_\_ gallons  
Water line size from source - \_\_\_\_\_ inches

**3. Water System**  
Type of Pump  
☐ Constant Pressure ☐ Jet ☐ Submersible ☐ Unknown  
Pumping rate of pump \_\_\_\_\_ gpm  
Pressure Tank  
☐ Air to water ☐ Bladder Capacity \_\_\_\_\_ gallons  
Operating pressure (psi/psig) \_\_\_\_\_ psi

**4. Water Problems**  
When this sample was drawn, it was:  
☐ Clear ☐ Cloudy ☐ Colored ☐ Cloudy  
This water sample is ☐ Untreated ☐ Treated  
How is it treated?

**PROBLEMS**  
☐ Hardness (e.g. high soap usage, bathtub ring, lime deposits, etc.)  
☐ Iron Deposits - if so, is iron build-up in flush tank?  
☐ Greasy ☐ Gritty ☐ Strong (iron bacteria?)  
Color of Water ☐ Red ☐ Orange ☐ Black  
☐ Greenish or blue stains on sinks, tubs, etc.  
☐ Filling of fixtures and/or pipes  
☐ Sand (visible particles) ☐ Sediment or silt (cloudy)  
Bad Taste ☐ Iron ☐ Sulfur ☐ Sulphur  
Other - describe \_\_\_\_\_  
Bad Odor ☐ Rotting Egg ☐ Musty ☐ Hot  
Odor is in ☐ Cold Water ☐ Hot Water ☐ Both  
Other Problems - describe \_\_\_\_\_

## WATER TESTING KITS & SAMPLE BOTTLES



Novo sells a complete line of easy to use test kits so you can accurately test water in the field. Not sure of the proper product application? Give us a call with the results and we'll provide you with a product recommendation. Water Sample Collection Kits are available at Stocking Wholesalers & include a sample bottle, mailing tube and sample collection instructions.

If you have concerns about the safety (potability) of the water supply we recommend a complete water analysis be conducted. These are usually conducted for a small fee at a State or Provincial Lab.



# OPERATIONS & PRODUCT DEVELOPMENT



Toby Hughes P. Eng.  
Chief Operations Officer

Toby Hughes has managed some of the industries largest water conditioning manufacturing operations as well as toured the facilities of most industry manufacturers across the globe.

Toby brings almost 20 years of extensive industry experience to Novo. Toby has managed product development as well as implemented Lean manufacturing, Continuous Improvement and Quality Assurance programs, MRP (Material Requirement Planning) systems to create an efficient, low cost and quality driven manufacturing environment.

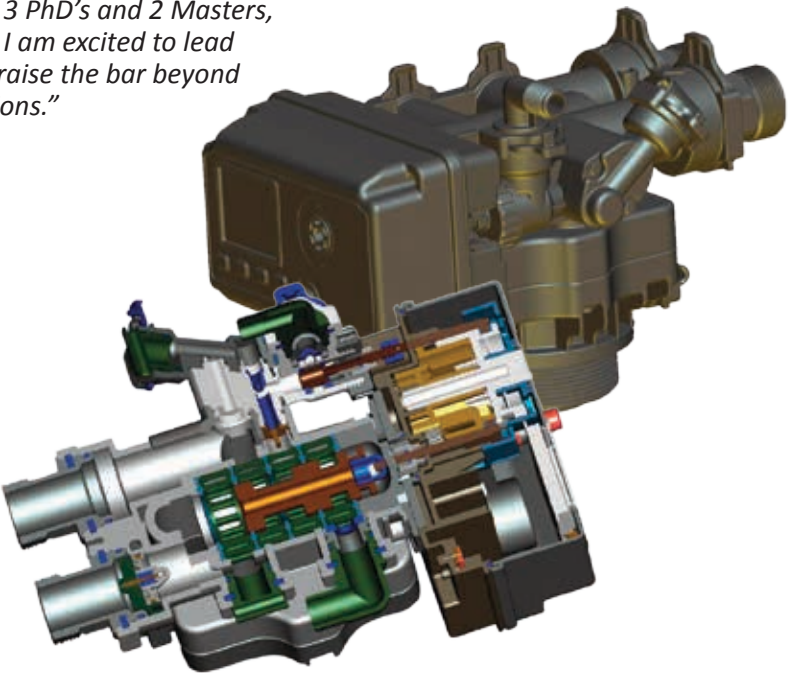


*"The Novo Product Development Center and manufacturing operations are beyond comparison in our industry. The investment in technology and commitment to leading manufacturing practices & innovation has resulted in higher quality and lower cost products with meaningful 'Installer / Service Driven' features. This all adds up to better value for our customers."*

*My staff of 17 Professional Engineers, including 3 PhD's and 2 Masters, are some of the brightest minds in the industry. I am excited to lead Novo's Global Engineering and Operations and raise the bar beyond industry standards and our customers expectations."*

*Toby Hughes*

Toby Hughes, P.Eng., Chief Operations Officer





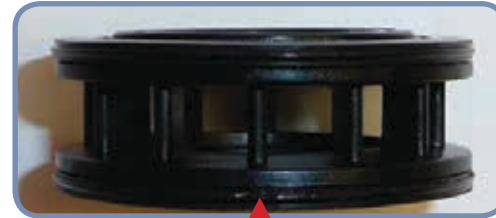
# CONTROL VALVES

Novo NSF/ANSI 44 Certified control valves meet or exceed the most vigorous industry performance and reliability standards. Familiar piston, seal and spacer design has been enhanced to improve performance and product life.

The addition of a piston stabilizer reduces the side load force between the piston rod and end plug seal as it firmly guides the piston while it travels up and down. An added rib on the seal improves the sealing pressure so that the valve can withstand over 700psi! These are just a few of the design features that make Novo valves more reliable and better performing. Learn more about the 'Dealer-driven' control valve design features on page 13.

Novo NSF/ANSI 44 Certified control valves meet or exceed competitive equivalents in all four key measures:  
1) Service Flow Rate, 2) Back Wash Flow Rate, 3) Burst Pressure and 4) Cycle Testing.

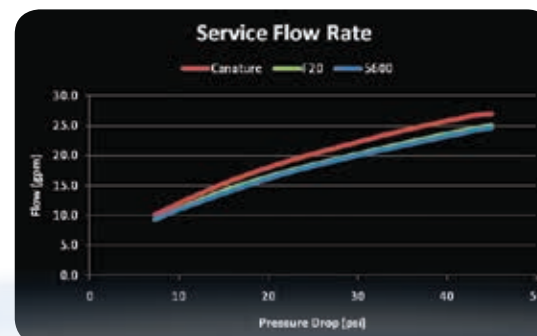
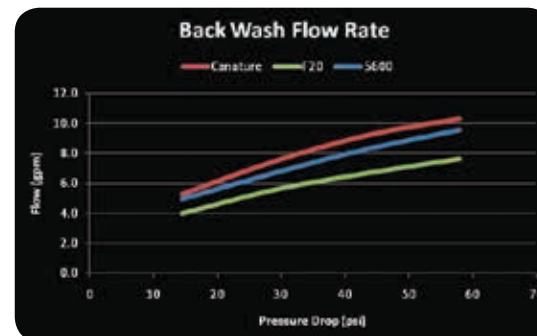
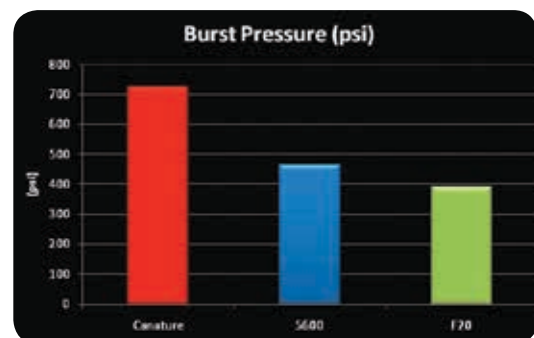
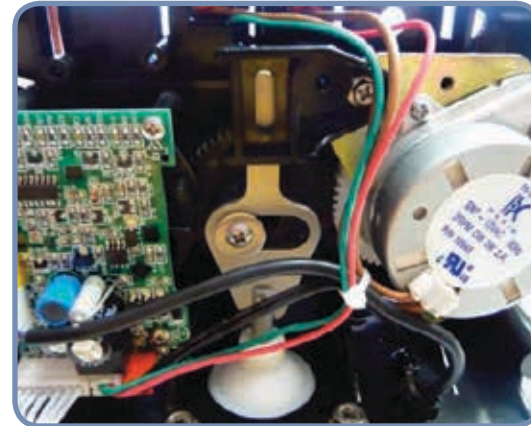
NSF Certified chloramine resistant rubber seals



Added Rib Improves Seal



Piston Stabilizer



# FIBERGLASS TANKS

Novo NSF/ANSI 44 Certified filament wound tanks are not only strong and reliable but the finish is unparalleled in the industry. No need for a tank jacket (although we offer those too) with the neatly wound, high gloss finish. Strict tank height control measures mean no surprises when installing a duplex system.

The tanks are made in the World's first and only fully automated, robotic manufacturing process.

**Watch the video >>**

[www.canaturena.com/tanks-video.asp](http://www.canaturena.com/tanks-video.asp)





# ASSEMBLY, TESTING & DISTRIBUTION

All water softeners and whole-house filters are engineered, assembled, tested and distributed from our North American Regional facilities. All control valves are 100% wet tested and air tested before leaving the factory. Control valves are then set up to engineering specifications for the particular unit, air tested a second time and then assembled into the finished product. All assembled products are packaged in durable, double walled high impact cardboard to ensure products arrive undamaged.



Denton Gaiser, VP of Business Development setting up valve on test rack in Cambridge, ON



Kyle Stange shrink wrapping shipment in Golden Valley, MN



Mike Cummings assembling a softener in Regina, SK facility

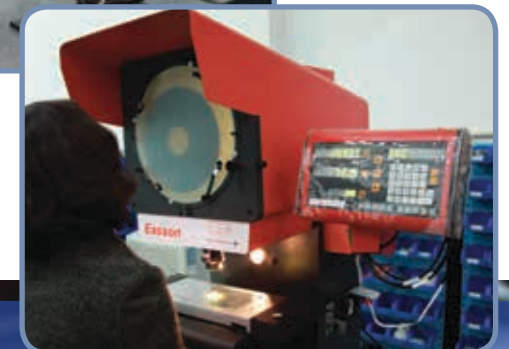


# QUALITY ASSURANCE DEPARTMENT

Novo employs a strict and formalized quality control program. The 925,000 sq. ft. Shanghai Manufacturing facility is ISO9001:2008 Quality Assurance and ISO 14001:2004 Environmental Management Systems standards certified.

## Quality Control systems:

- ➔ Document Management
- ➔ Receiving Inspection
- ➔ In-process Quality Control
- ➔ Final Inspection
- ➔ Engineering Change Orders
- ➔ First Piece & Production Part Approval
- ➔ Test Equipment Calibration
- ➔ Statistical Process Control
- ➔ Vendor Quality Management
- ➔ Customer Feedback System



## WORLD CLASS TESTING LABORATORY

- ➔ **Burst Testing:** High pressure testing of tanks and valves to determine the maximum burst strength.
- ➔ **Cycle Pressure Testing:** High pressure cycling testing to simulate the fatigue strength of the tanks and valves over their life.
- ➔ **Flow Bench:** Precisely measure flow rates and pressure drops.
- ➔ **Reliability Testing:** Continuously cycling the valve through regeneration while taking flow measurements and counting the number of cycles.
- ➔ **Computer Aided Optical Comparator:** Used for precise measurement of very small details such as fillets or radius's.
- ➔ **Coordinate Measuring Machine (Cmm):** Used for precise geometrical x, y, and z measurement coordinates.
- ➔ **3d Prototype Printer:** Makes 3D models for rapid prototyping.
- ➔ **Chemical Analysis Laboratory:** Complete chemical analysis of raw materials including metals, plastics and media to ensure quality and integrity.





# WATER CONDITIONING BASICS

THE HYDROLOGIC CYCLE  
GUIDELINES FOR SOLVING  
WATER PROBLEMS, TERMINOLOGY,  
WATER ANALYSIS,  
SIZING PARAMETERS



## THE HYDROLOGIC CYCLE



The total area of the earth is composed of 2/3 water, making it one of the most plentiful and most important materials available. Without potable water, mankind cannot survive.

Pure water consists of two parts hydrogen and one part oxygen, chemically combined to form pure water.

The only pure source of water is the earth's atmosphere (sometimes called the hydrological cycle). Impure water from the earth's oceans, lakes, rivers and surface evaporates into the atmosphere, then condenses to form rain droplets which are totally pure. The above process operates basically the same as a man-made still, which evaporates all the impurities from the water, then returns the condensates into pure water. If this process did not exist, there would likely not be enough potable water to support the earth's population.

**“THE ONLY PURE  
SOURCE OF WATER  
IS THE EARTH'S  
ATMOSPHERE.”**

The pure water vapor, which forms in the earth's atmosphere (clouds), begins to pick up impurities. As it begins to fall to earth in the form of rain, snow, etc., impurities are immediately absorbed. These impurities may be dust, micro-organisms, gases, etc. - at least a little of everything found in the atmosphere on the way to the surface.

The rain or snowfall finds its way to various sources of water supplies on the earth's lakes, rivers, oceans or it may soak into the ground and become a part of an underground stream or lake.

### Characteristics of Various Water Sources Rain Water

After the water picks up impurities in the atmosphere and percolates through the ground, it comes into contact with carbon dioxide and then forms carbonic acid. This dissolves some of the mineral content of the soil or rock it contacts, thus adding these minerals to the water.

### Surface Water

Water from streams may be turbid due to the presence of silt, clay, etc. However, in larger surface water, a greater amount of self-purification takes place through aerobic digestion, plant life, fish, etc. and the quality of the water could change to a great degree.

### Ground Water

Normally picks up the minerals it flows through. As a general rule, water from deep wells contains a higher mineral content and is less likely to contain organics or turbidity. Water from shallow wells is usually lower in mineral content and may be subjected to pollution or other bacteria which is available from various sources nearby (e.g. spring run-off through forests and hills, plants, industrial wastes, etc. which will all pass various bacteria into the water).

### Impurities

Impurities in water are divided into two classifications:

#### 1. Dissolved Solids

Those which naturally dissolve into water. NOTE: Gases may also dissolve into water unless they combine chemically with other impurities. They will be released into the atmosphere upon boiling and are not truly classified as dissolved solids. Upon evaporation, only the dissolved solids would remain in the actual mineral form and then can be analyzed by actual weight of the various elements.

#### 2. Suspended Solids

Consist of clay, mud, silt, etc. and will not dissolve into water naturally but remain as such in their present state.

Water treatment and pollution control is one of the largest and most important industries in the modern day world. As can be seen from the preceding information, water treatment is a very broad and varied field and chemical analysis of certain water supplies is virtually impossible to completely break down. In time, modern man may discover additional information regarding the field of water treatment and the entire cycle of the earth's largest and most important single resource.

The following sections will attempt to clarify some of the more common problems and solutions presently available.



# GUIDELINES FOR SOLVING WATER PROBLEMS

PROBLEM	SYMPTOM	CAUSE	CORRECTIVE EQUIPMENT
Hard Water	Spotting on dishes and glassware; scale on inside of water heater, pipes and water-using appliances; soap curd and bathtub ring; clothes look gray and dingy.	Calcium and magnesium in water, measuring 1.0 gpg or more.	Water Softener (Max. Hardness 100 gpg) (Max. Clear Water Iron 1.5 ppm)
Clear Water Iron (Ferrous)	Yellow, brown or rusty stains on plumbing fixtures, water-using appliances and fabrics; metallic taste in foods and beverages; water is clear when drawn from the faucet but oxidizes when exposed to air, then changes color ranging from yellow to brown.	Iron in the water measuring 0.3 ppm or more.	0.3-1.5 ppm Water Softener. 1.5-7.5 ppm SIM Specialty System Softener. 1.5-30 ppm Chemical Free Iron Filter (Note 1).
Red Water Iron (Ferric)	Same symptoms as Clear Water Iron but iron has already oxidized and has a yellow to rust color when drawn from the faucet.	Iron in the water measuring 0.3 ppm or more.	0.3-30 ppm Chemical Free Iron Filter ( Note 1). 0.3-10 ppm Iron & Sulfur Filter.
Bacterial Iron	Same symptoms as Clear & Red Water Iron but can have clumps or balls that may foul plumbing lines and other water-using appliances; particularly noticeable as a yellow to reddish slime in toilet flush tanks.	Iron bacteria are a group of bacteria which thrive in ironbearing water, utilizing iron as an energy source. This bacteria is not a health hazard.	Chemical Free Iron Filter (Note 1). Chemical feed pump feeding chlorine followed by a Multimedia Filter (Note 3).
Manganese	Blackish stain on fixtures and laundry; manganese content above 0.05 ppm causes stains.	Interaction of carbon dioxide or organic matter with manganesebearing soils. Usually found in combination with iron.	0.05-1.0 ppm Chemical Free M Iron Filter (Note 1). 1.0-2.0 ppm Neutralizing Filter followed by Iron & Sulfur Filter (Note 2).
Acid Water	Blue/green or rusty stains and corrosion of plumbing fixtures and other water-using appliances; pitting of porcelain and enamel fixtures and dishes. Pin holes in copper plumbing lines.	Generally associated with water with a pH value of less than the neutral 7.0.	pH 6.0-6.9 Neutralizing Filter. pH 4.0-6.9 Chemical Feed Pump feeding soda ash. Consult our Customer Service Dept.
Aggressive/Corrosive Water	Same symptoms as Acid Water but pH is 7.0 or higher.	Alkalinity and carbon dioxide or high dissolved oxygen in water. Electrolysis - two dissimilar metals in plumbing lines.	Consult our Customer Service Dept.
Hydrogen Sulfide	Rotten egg taste and/or odor. Turns copper plumbing lines black. Very corrosive.	Hydrogen sulfide is a dissolved gas found in some water supplies.	0.1-3.0 ppm Chemical Free Iron Filter or Iron & Sulfur Filter. 3.0-15 ppm Chemical Feed Pump feeding chlorine followed by a Multimedia Filter (Note 3).
Marshy, metallic or chlorine taste and/or odors	Objectionable tastes and/or odors other than hydrogen sulfide.	Dissolved minerals or gases; organic contamination or chlorination.	Activated Carbon Filter for whole house water supply or Taste & Odor Cartridge Filter for individual faucets.
Turbidity (Sand/Sediment)	Foreign particles, dirty or cloudy water.	Tiny suspended particles that are the result of water main scale or silt. Private wells often contain sand or clay.	Multimedia Filter for whole house water supply or a Sediment Cartridge Filter for individual faucets.
Tannins	Yellow or brown tint or cast in water supply; tannins measuring 0.5 ppm or higher may cause staining and/or interference with various water treatment processes.	Result of decaying vegetative matter.	Organic Color Removal Filter. Consult our Customer Service Dept.

**Note 1** - Water must have a minimum pressure of 20 psi, pumping rate of 5 gpm and a pH of 6.5 or higher for proper operation. Most water supplies contain calcium and magnesium which are not removed by an iron filter. We recommend following an iron filter with a water softener.

**Note 2** - Oxidation of manganese is more pH dependent than iron. Therefore a pH of 8.2 or higher must be maintained. If the manganese level is >2.0 ppm or bacterial iron is present, consult our Customer Service Department.

**Note 3** - This system also requires a retention tank to allow adequate contact time (minimum 20 minutes). An optional activated carbon filter for the whole house water supply or a taste & odor cartridge filter for individual faucets may be installed to remove any objectionable taste or odor.

# TERMINOLOGY

## Grains per Gallon - gpg

1/7000 of a pound - normally used in relation to hardness.

## Parts per Million - ppm

One part dissolved material in one million parts of water. Used as a measurement for iron, manganese, TDS, hydrogen sulfide, chlorides, sulfates and tannins.

## Milligrams per Liter - mg/l

For our purpose, same as ppm. Normally used for a more accurate measurement or where small quantities of certain elements cause big problems in relation to iron, manganese, sulfur, nitrates and silica.

## Converting gpg to ppm or mg/l

1 gpg = 17.1 ppm (mg/l)

## Total Dissolved Solids - TDS

The weight of solids, per unit volume of water, which are in true solution. Can be determined by the evaporation of a measured volume of filtered water and determination of the residue weight. A common alternative method to determine TDS is to measure the conductivity of water.

## Hardness

A characteristic of natural water due to the presence of dissolved calcium and magnesium. Water hardness is responsible for most scale formation in pipes and water heaters and forms insoluble “curd” when it reacts with soaps. Hardness is usually expressed in grains per gallon (gpg), parts per million (ppm) or milligrams per liter (mg/l), all as calcium carbonate equivalent.

## Ferric Iron

Iron that is oxidized in water and is visible. Also called red water iron.

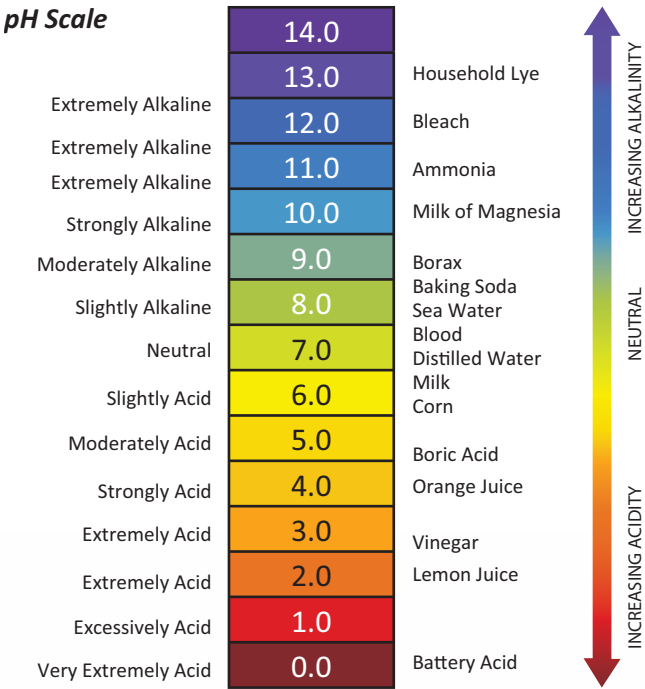
## Ferrous Iron

Iron that is dissolved in water. Also called clear water iron.

## pH

pH is a measure of the intensity of the acidity or alkalinity of water on a scale from 0 to 14, with 7 being neutral. When acidity is increased, the hydrogen ion concentration increases, resulting in a lower pH value. Similarly, when alkalinity is increased, the hydrogen ion concentration decreases, resulting in higher pH.

The pH value is an exponential function so that pH 10 is 10 times more alkaline than pH 9 and 100 times more alkaline than pH 8. Similarly, a pH 4 is 100 times more acid than pH 7.



**Note:** A complete glossary can be found in the Water Conditioning Glossary section.



WATER ANALYSIS

For correct sizing and application of water conditioning equipment, a water analysis is required. A basic water analysis includes tests for the following:

- Hardness
- Iron
- Manganese
- pH
- TDS (Total Dissolved Solids)

Water samples should be taken as near the source as possible and represent the average water condition. Clean containers must be used. When performing the analysis, the test equipment must be clean and rinsed with the test water and the test water should be between 68°F and 77°F (20°C and 25°C). Use rubber stops as supplied. Do not use your fingers as contaminants and acids could affect test results.

Additional tests can be performed for tannins and hydrogen sulfide (H2S). The test for H2S must be performed on-site for accurate results. Special tests can be performed for chlorides, sulfates and alkalinity by specified laboratories. If it is suspected the water supply is contaminated with coliform bacteria or nitrates, a sample must be collected in an approved sterilized container and submitted to a government approved laboratory. Iron bacteria will not be detected with the standard iron test and can be tested for by a government approved laboratory.

If the TDS is over 1000 ppm and hardness is less than 30% of the TDS, a complete water analysis should be performed to discover what other contaminants exist in the water.

If a contaminant exceeds the limits detectable by any test method, the raw water sample can be diluted with distilled water until a reading can be taken. A calculation must then be performed to determine the actual degree of contamination. All test chemicals are subject to age and extreme temperatures. Proper storage techniques and expiry dates should be observed.

The Water Analysis Report shown on the next two pages must be completed accurately to determine the correct equipment to recommend for the water problem(s) being experienced.

Hard Water

Water with a total hardness of 1.0 gpg or more as calcium carbonate equivalent.

- Less than 1.0 gpg ..... Soft
- 1.0 - 3.5 gpg ..... Slightly hard
- 3.5 - 7.0 gpg ..... Moderately hard
- 7.0 - 10.5 gpg ..... Hard
- More than 10.5 gpg ..... Very hard

Hardness

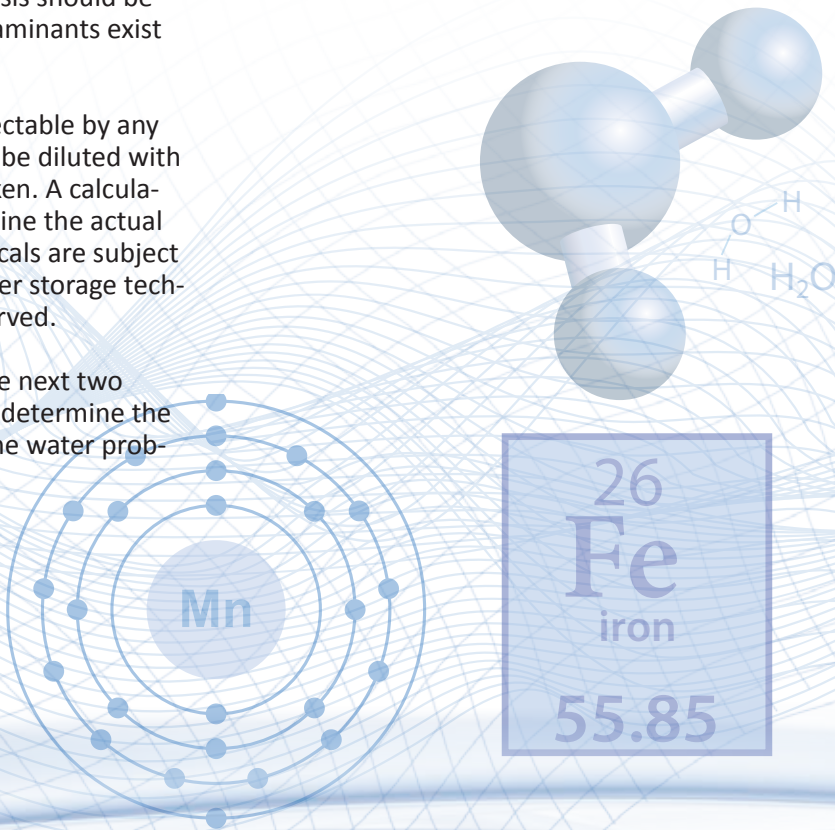
A characteristic of natural water due to the presence of dissolved calcium and magnesium. Water hardness is responsible for most scale formation in pipes and water heaters and forms insoluble “curd” when it reacts with soaps. Hardness is usually expressed in grains per gallon (gpg), parts per million (ppm) or milligrams per liter (mg/l) all as calcium carbonate equivalent.

Soft Water

Any water which contains less than 1.0 gpg (17.1 mg/l) of hardness minerals, expressed as calcium carbonate equivalent.

Softened Water

Any water that is treated to reduce hardness minerals, expressed as calcium carbonate equivalent.



Water Analysis Report

NOTE: Please answer ALL appropriate questions to ensure accurate equipment recommendations

CUSTOMER		DEALER		DISTRIBUTOR	
Name		Name		Name	
Street		Street		Street	
Town State/Province		Town State/Province		Town State/Province	
Zip Code/P.C. Email		Zip Code/P.C. Email		Zip Code/P.C. Email	
Phone Fax		Phone Fax		Phone Fax	

Bacterial analysis must be performed by your local health department.

HOW TO DRAW WATER SAMPLE  
Use outlet nearest pump (not from bottom of pressure tank). Run water for five minutes or two pump cycles, then fill clean bottle to neck and cap immediately. Never use hot water. Return bottle with this completed form.

HOW TO MEASURE PUMPING RATE OF PUMP  
1. Make certain no water is being drawn. Open spigot nearest pressure tank. When pump starts, close tap and measure time (in seconds) to refill pressure tank. This is **cycle time**.  
2. Using a container of known volume, draw water and measure volume in gallons until pump starts again. This is **drawdown**.  
3. Divide drawdown by cycle time and multiply the result by 60 to arrive at the **pumping rate** in gallons per minute. Insert this figure in #3 Water System.

1. Water Source  
☐ City or area-wide authority  
☐ Community water system (small water system usually supplying 12 homes or fewer)  
Water comes from:  
☐ Well ☐ Lake ☐ Reservoir ☐ River ☐ Unknown  
☐ New private well - Approx age \_\_\_\_\_ months  
☐ Old private well - Approx age \_\_\_\_\_ months  
☐ Private lake ☐ Private spring ☐ Private dugout  
☐ Private cistern ☐ Other - describe \_\_\_\_\_

2. Household Information  
Do you now have water conditioning equipment?  
☐ No ☐ Yes Type \_\_\_\_\_ Size \_\_\_\_\_  
☐ Single family ☐ Multi-family No. of units \_\_\_\_\_  
No. persons \_\_\_\_\_ No. baths \_\_\_\_\_  
☐ Lawn irrigation on water system?  
☐ Indoor pool ☐ Outdoor pool - Capacity \_\_\_\_\_ gallons  
Water line size from source - \_\_\_\_\_ inches

FOR LABORATORY USE ONLY  
Date Received \_\_\_\_\_  
Report No. \_\_\_\_\_  
Date Completed \_\_\_\_\_

3. Water System  
Type of Pump  
☐ Constant Pressure ☐ Jet ☐ Submersible ☐ Unknown  
Pumping rate of pump \_\_\_\_\_ gpm  
Pressure Tank  
☐ Air to water ☐ Bladder Capacity \_\_\_\_\_ gallons  
Operating pressure (low/high) \_\_\_\_\_ / \_\_\_\_\_ psi  
4. Water Problems  
When this sample was drawn, it was:  
☐ Clear ☐ Colored ☐ Cloudy  
This water sample is ☐ Untreated ☐ Treated  
How is it treated? \_\_\_\_\_

PROBLEMS  
☐ Hardness (e.g. high soap usage, bathtub ring, lime deposits, etc.)  
☐ Iron Deposits - if so, is iron build-up in flush tank?  
☐ Greasy ☐ Gritty ☐ Stringy (iron bacteria?)  
Color of Water - ☐ Red ☐ Orange ☐ Black  
☐ Greenish or blue stains on sinks, tubs, etc.  
☐ Pitting of fixtures and/or pipes  
☐ Sand (visible particles) ☐ Sediment or silt (cloudy)  
Bad Taste - ☐ Iron ☐ Bitter ☐ Salty  
Other - describe \_\_\_\_\_  
Bad Odor - ☐ Rotten Egg ☐ Musty ☐ Iron  
Odor is in - ☐ Cold Water ☐ Hot Water ☐ Both  
Other Problems - describe \_\_\_\_\_



5. Standard Laboratory Tests

Total Hardness	_____	gpg
Iron	_____	mg/l
Manganese	_____	mg/l
pH	_____	
Total Dissolved Solids	_____	mg/l

6. Other Tests

Hydrogen Sulfide	_____	mg/l
(test must be performed on-site)		
Tannins	_____	mg/l

7. Special Laboratory Tests

Chlorides	_____	mg/l
Sulfates	_____	mg/l
Alkalinity	_____	mg/l

If TDS is over 1000 ppm and hardness is less than 30% of the TDS, a total water analysis is required.

8. Explanation of Water Analysis

- A. Total Hardness
- This indicates the efficiency or workability of the water for everyday household use. Water in excess of 3 gpg is generally considered hard and should be softened.
- B. Iron
- Over 0.3 ppm of iron will cause discoloration of water and staining. Fully automatic water conditioners will correct this problem. Some extreme water situations may require filtration.
- C. Manganese
- Manganese is frequently encountered in iron-bearing water but to a lesser degree. Manganese is similar to iron in that it stains and clogs pipes and valves. Concentrations as low as 0.05 mg/l of manganese can cause problems.

Recommendations

Recommendations are based entirely on the information supplied and the water sample chemistry results at the time of analysis.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Recommended by \_\_\_\_\_

Date \_\_\_\_\_

- D. pH
- A scale used to measure the acidity or alkalinity of water. A pH reading below 6.5 normally indicates highly corrosive water and neutralizing equipment should be used. A pH reading in excess of 8.5 could indicate contaminated water and generally requires bacteriological and chemical analysis.
- E. Hydrogen Sulfide (H<sub>2</sub>S)
- Testing for hydrogen sulfide should occur on-site. Hydrogen sulfide imparts a rotten egg odor and taste that makes water all but undrinkable and also promotes corrosion. In addition, it can foul the resin bed of a water conditioner. The use of a water conditioner is not recommended unless the water is first treated for the removal of hydrogen sulfide.
- F. Total Dissolved Solids (TDS)
- A measure of the soluble solids present in the water.
- G. Tannins
- Tannic acid is formed by decaying organic matter. Tannins alone are not harmful, although they can affect the proper operation of a chemical free iron filter.
- H. Chlorides
- Over 500 ppm may impart a salty taste to water.
- I. Sulfates
- Over 500 ppm may impart a bitter taste to water and have a slight laxative effect.
- J. Alkalinity
- Caused by the presence of bicarbonates, carbonates and hydroxides. Over 500 ppm creates a “soda” taste and makes skin dry.

Return completed form to:

SIZING PARAMETERS

Water Softener Sizing is Based On

- 60 gallons per person per day - total household use
- Three day minimum between regenerations
- Capacity between regenerations at factory salt settings or K label capacity
- Number of people x 60 gallons per person x gpg of hardness x 3 days = capacity required between regenerations
- Consult your factory representative for water that is 75 gpg or harder

Water Softener/Iron Removal Combination Units

- This unit should be recommended only when dictated by special circumstances or the needs of the customer.
- The customer should be made aware that a separate iron filter and softener is preferred because it is a more efficient way to deal with the water.
- When recommending a combination unit, follow the guidelines provided in the specifications.

Water Consumption for Regeneration

The volume of water used during the regeneration process of a water softener will vary depending on:

- Amount and type of resin
- Cycle time settings
- Flow controllers
- Salt settings
- Tank diameter

Generally, water usage for regeneration is based on the cubic feet of resin per water softener from a low of 30 gallons of water per cubic foot, up to a normal of 75 gallons of water per cubic foot, to a maximum of 100 gallons of water per cubic foot. Manufacturing specs and settings for each model size should be checked to verify exact amounts.

Three Day Sizing Method  
The three day sizing method is used for the following reasons:

1. To determine the size of the water conditioner to be used
2. To allow for reserve capacity between regenerations so the customer does not run out of soft water
3. To provide the most economical operation cost

Conversion Factors & Compensated Iron & Manganese

Total Hardness converted from ppm or mg/l to Grains/US Gallon (gpg)  
**ppm (mg/l) ÷ 17.1 = gpg**

If there is a small amount of Iron or Manganese in the water, add the following compensated values:  
**Iron - ppm x 4**  
**Manganese - ppm x 8**  
To arrive at the additional compensated load on the softener

The Total Equivalent Iron for the softener to remove should not be greater than 1.5 ppm. Total Equivalent Iron is calculated as follows:  
**Iron ppm + 2 x Manganese ppm < 1.5 ppm**

If the Total Equivalent Iron is less than 0.5 ppm, a Res-Up Feeder and Pro ResCare can be added as an optional safeguard against fouling or the bed can be cleaned occasionally by adding a small amount to the brine tank manually.

If the Total Equivalent Iron is 0.5 - 1.5 ppm, the softener can be sized accordingly but a Res-Up Feeder and Pro ResCare is required in addition to the softener to prevent iron fouling of the resin.

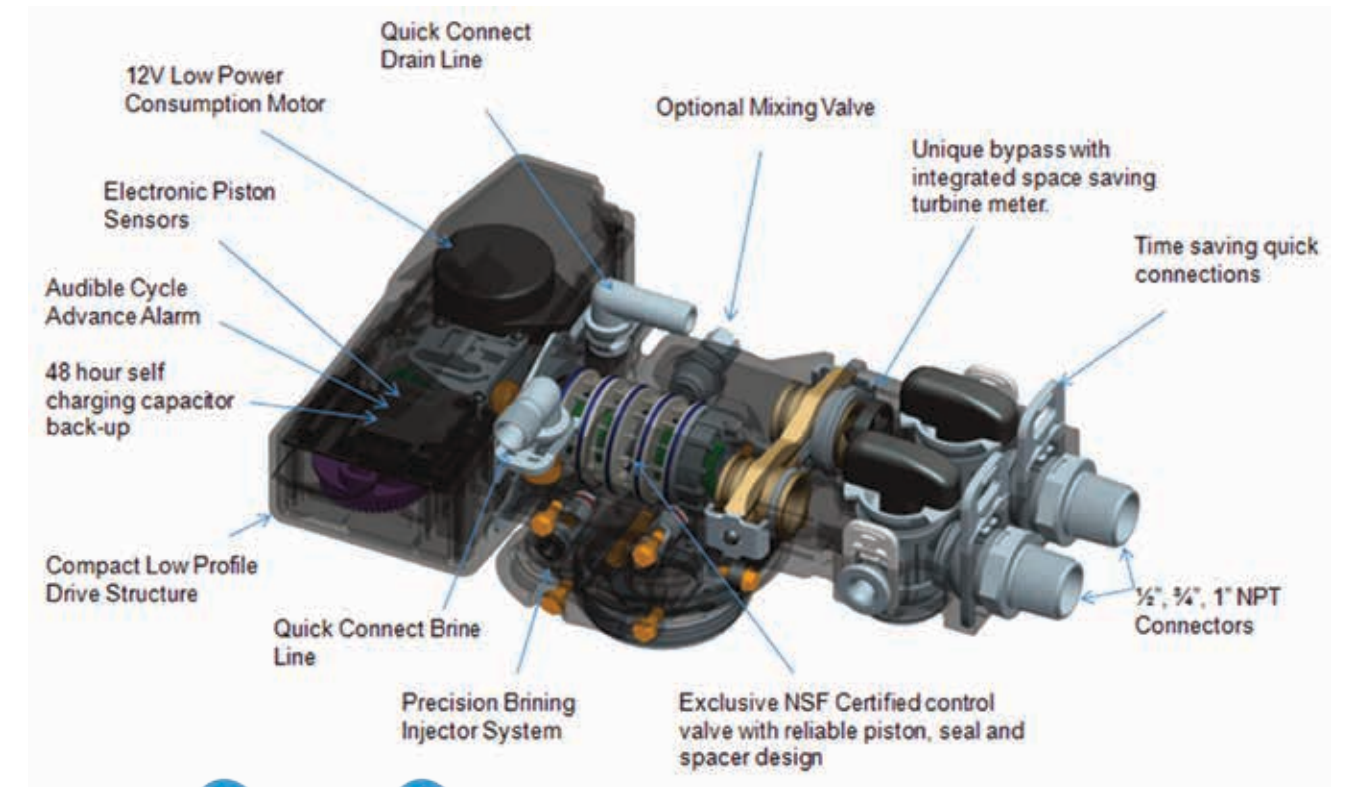
If the Total Equivalent Iron is greater than 1.5 ppm, an Iron Filter is required as pretreatment prior to the softener.



SOFT,  
CLEAN  
& CLEAR

SOFTENERS, FILTERS  
& SPECIALTY SYSTEMS

## UNIQUE FEATURES DESIGNED WITH THE PLUMBER IN MIND



### QUICK CONNECT FEATURES FOR ULTIMATE CONVENIENCE

The quick connect bypass comes installed on every unit with both 90° 3/4" elbows and straight 1" NPT connectors. Optional quick connect adaptors include 3/4" straight shark bite and 3/4" straight NPT connectors.



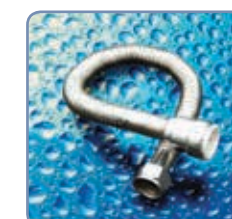
All units include pre-installed bypass



Standard QC Fittings



Optional Fittings

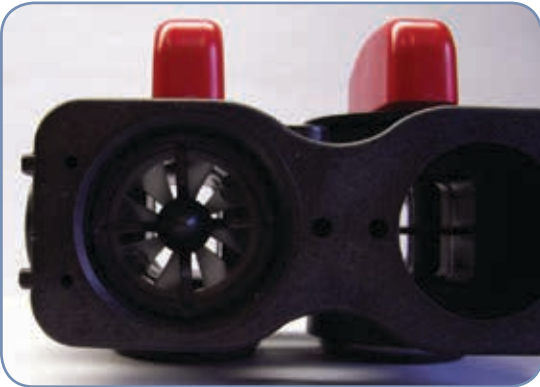


**3/4" FIP x 3/4" Jg Flex Connector 18" (item # 80127757)**  
Simply push to connect on to any 3/4" copper, CPVC or PEX piping with no tools!! Brought to you by a collaboration between Falcon Stainless and John Guest USA. Eliminates the need for expensive brass compression fittings or copper male adaptors.

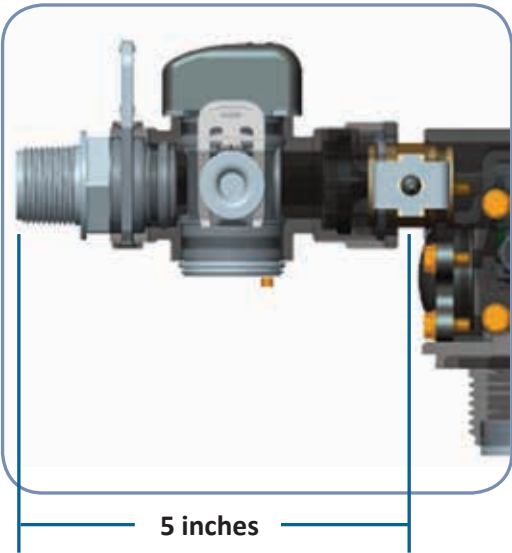


SPACE SAVING IMPROVED DESIGN

Eliminate 4” and unnecessary connections for neat, quick installations. Bypass with integrated meter avoids ‘meter jamming’ which is caused from weight of pipes creating torque on turbines causing them to bind and stop metering.



integrated meter in bypass

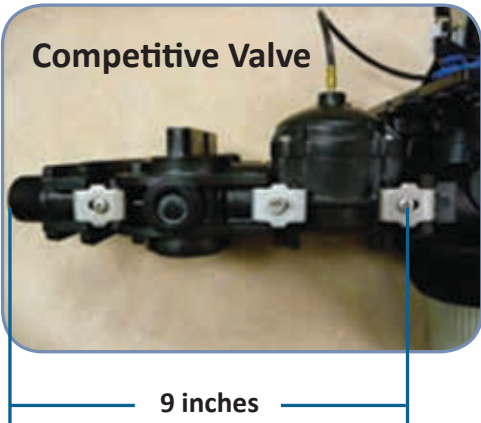


1 Connection Comes pre-installed



QC Power Cable

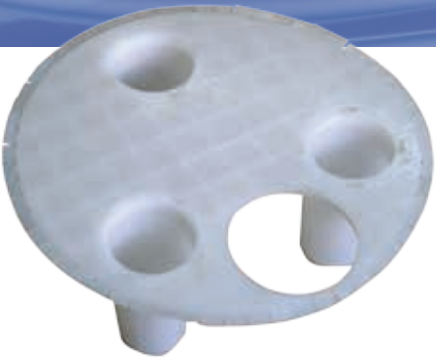
- ➔ Simplifies installation or removal of the valve from the tank
- ➔ No tangled or wrapped up power cords!



3 Connections

HIGH QUALITY BRINE COMPONENTS

- ➔ Closed bottom brine well reduced intrusion of unwanted impurities
- ➔ Injection molded brine grids reduce bridging
- ➔ Solvent free distributor tube with spun weld collector avoids glue and solvents
- ➔ Injection molded reliable brine valve



HEAVY DUTY PACKAGING

Novo uses only durable double-walled high impact cardboard with carrying straps to ensure you do not have to deal with the headache of receiving damaged products.



“Our focus is to build the highest quality water conditioning products in the industry... so when it comes to protecting them from damage during shipping & handling we don’t ‘cheap out’!”

Toby Hughes, P.Eng  
Chief operations officer



WATER SOFTENER SIZING GUIDE

Choosing the Right Size Softener

# of People	Total Hardness (Grains per Gallon)									
	10	15	20	25	30	40	50	60	70	75
1	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-100 NVO165-100	NVO485-100 NVO165-100
2	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-100	NVO485-100 NVO165-100	NVO485-100 NVO165-150	NVO485-150 NVO165-150
3	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-100 NVO165-100	NVO485-150 NVO165-150	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-200
4	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-100	NVO485-100 NVO165-100	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-200	NVO485-200 NVO165-300	NVO485-300 NVO165-300
5	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-100 NVO165-150	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-300	NVO485-300 NVO165-300	NVO485-300 NVO165-300	NVO485-300 NVO165-N/A
6	NVO485-75 NVO165-75	NVO485-75 NVO165-75	NVO485-100 NVO165-100	NVO485-150 NVO165-150	NVO485-150 NVO165-150	NVO485-200 NVO165-200	NVO485-300 NVO165-300	NVO485-300 NVO165-300	NVOHEDP-100	NVOHEDP-100
7	NVO485-75 NVO165-75	NVO485-75 NVO165-100	NVO485-100 NVO165-150	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-300	NVO485-300 NVO165-300	NVOHEDP-100	NVOHEDP-100	NVOHEDP-150
8	NVO485-75 NVO165-75	NVO485-100 NVO165-100	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-200	NVO485-300 NVO165-300	NVO485-300 NVO165-N/A	NVOHEDP-100	NVOHEDP-150	NVOHEDP-150
9	NVO485-75 NVO165-75	NVO485-100 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-300	NVO485-200 NVO165-300	NVO485-300 NVO165-300	NVOHEDP-100	NVOHEDP-150	NVOHEDP-150	NVOHEDP-150
10	NVO485-75 NVO165-100	NVO485-150 NVO165-150	NVO485-150 NVO165-200	NVO485-200 NVO165-300	NVO485-300 NVO165-300	NVOHEDP-100	NVOHEDP-100	NVOHEDP-150	NVOHEDP-150	NVOHEDP-150

Notes:  
We recommend contacting Novo Water Customer Service for any hardness levels above 75 gpg for proper recommendations  
Cabinet models are available for all 75 and 100 models



# WATER SOFTENERS

## Novosoft 485HE Series Water Softener

Novo's premier high-efficiency softener sets the new standard for high performance while offering more features designed to make installations faster & easier than ever!



uses up to  
75% less salt  
& 64% less  
Water!!!

Cabinet model

Twin tank model



Two piece cabinet design



WQA Tested & Certified to NSF/ANSI 44 for effective reduction of hardness as verified and substantiated by test data.



7 Year Warranty Control Valve



Lifetime Warranty Pressure tank

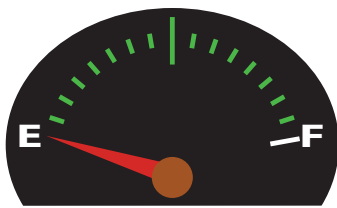
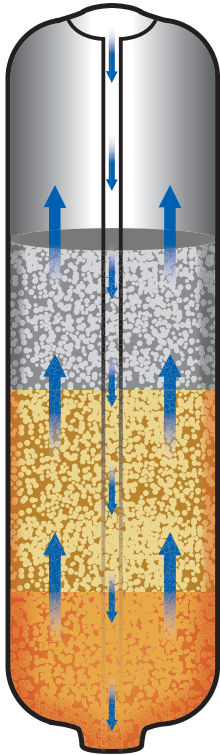
### Features:

- ➔ Reverse Flow regeneration preserves unused portion of softening bed from unnecessary exchange saving salt
- ➔ Precision Brining calculates the exact amount of brine required to regenerate saving up to 30% more salt
- ➔ Automatic Backwash Frequency Preset for clean municipal water saves water by matching back wash to water quality need
- ➔ Soft Water Brine Tank Refill keeps tank & injectors clean
- ➔ Automatic System Refresh flushes stagnant water after 7 days of non-use preventing bacteria growth
- ➔ Soft Water Recharge Mode ensures soft water during unusually heavy water usage
- ➔ Compact two-piece cabinet or traditional twin tank
- ➔ Condensation tank jacket (8", 9" & 10" twin tank models)
- ➔ NSF Certified fiberglass pressure tank
- ➔ WQA Gold Seal Certified cation resin
- ➔ WQA Tested & Certified against CSA B483.1
- ➔ User-friendly backlit LCD display
- ➔ "No Touch" information display rotates key info like last regeneration date and volume remaining
- ➔ Unique bypass with integrated turbine meter saves space, eliminates connections and is more durable
- ➔ Time saving quick connect fittings on bypass, drain & brine line. Power cord even has quick connect for easier installations.
- ➔ Drain line o-ring eliminates the need for Teflon
- ➔ Brine safety valve for added overflow protection
- ➔ Plastic salt grid prevents bridging (twin tank only)
- ➔ 48 hour self charging battery back-up
- ➔ Includes hose clamp and 10' of drain tubing

# HIGH PERFORMANCE FEATURES:

## Reverse Flow Regeneration with Precision Brining

Traditional 'downflow' softeners deplete the unused portion of the resin bed with every regeneration. It is like draining the gas tank in your car every time before filling it up!



'Reverse Flow Regen' - drives the hardness minerals up through the already depleted resin and out to drain - saving both salt and the unused portion of the resin for future use.

**Soft Water Recharge** - If total capacity goes below 3%, a short 15 minute 'recharge' will restore additional capacity so the softener can soften until the regular 2:00 a.m. regeneration time.

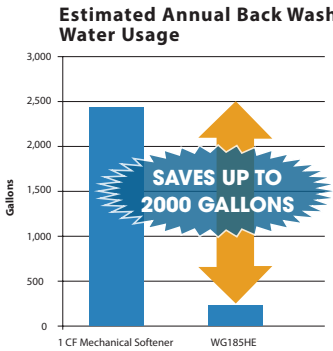
**Precision Brining** - saves additional salt by pre-making only 70% of the brine. Just before regeneration, the computer calculates the precise amount of brine top-up needed to regenerate only the depleted resin saving up to 30% more salt!



**Soft Water Brine Tank Refill** - Conserve capacity and keep brine tank cleaner by adding only treated soft water to brine tank rather than raw untreated hard water.

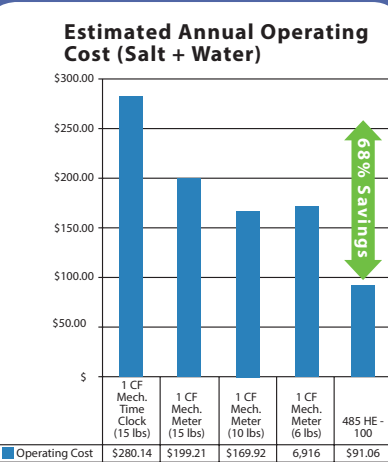
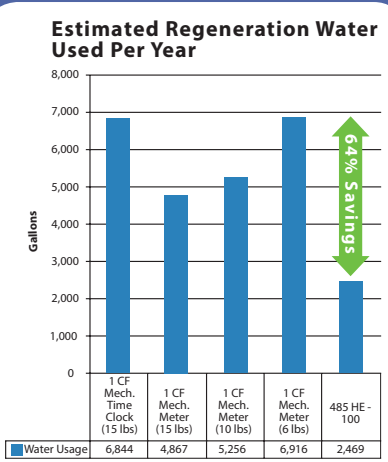
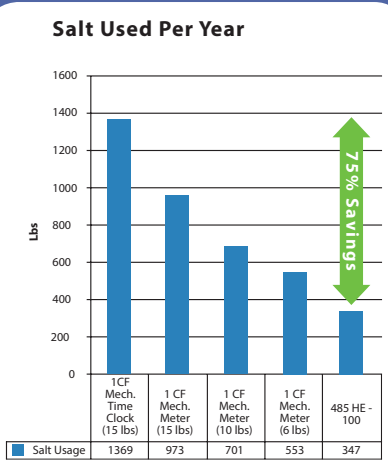
**Automatic System Refresh** - If no water is used for seven days, the system will perform an automatic refresh preventing bacteria growth.

**Automatic Backwash Override** - On clean municipal water supply there is no need to backwash and clean the bed every regeneration. Save water each regeneration by skipping up to 10 backwash cycles.



## ULTIMATE SALT & WATER SAVINGS!

Use 75% Less Salt & 64% Less Water! It's good for you & good for the environment!





485 WATER SOFTENER SPECIFICATIONS

Specifications	485HE-75C 15010450	485HE-100C 15010451	485HE-75 15010452	485HE-100 15010453	485HE-150 15010454	485HE-200 15010455	485HE-300 15010456
Optional Settings - High Efficiency							
Salt Used - Per Regeneration	2.3 lbs	3.0 lbs	2.3 lbs	3.0 lbs	4.5 lbs	6.0 lbs	9.0 lbs
Water Used - Regeneration	22.7 gal	28.3 gal	22.6 gal	31.6 gal	44.3 gal	60.9 gal	102.2 gal
Hardness Removal - Grains	11,250	15,000	11,250	15,000	22,500	30,000	45,000
Factory Settings - Standard Capacity							
Salt Used - Per Regeneration	4.5 lbs	6.0 lbs	4.5 lbs	6.0 lbs	9.0 lbs	12.0 lbs	18.0 lbs
Water Used - Regeneration	40.5 gal	48.6 gal	34.0 gal	43.4 gal	62.7 gal	87.1 gal	139.2 gal
Hardness Removal - Grains	18,750	25,000	18,750	25,000	37,500	50,000	75,000
Optional - High Capacity							
Salt Used - Per Regeneration	7.5 lbs	10.0 lbs	7.5 lbs	10.0 lbs	15.0 lbs	20.0 lbs	30.0 lbs
Water Used - Regeneration	56.1 gal	69.5 gal	49.6 gal	64.3 gal	90.3 gal	124.6 gal	196.2 gal
Hardness Removal - Grains	22,500	30,000	22,500	30,000	45,000	60,000	90,000
Resin Quantity - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	9x35	10x35	8x44	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	Yes	Yes	Yes	No	No
Brine Tank / Cabinet Size (Inches)	16.5 x 19.3 x 43.3	16.5 x 19.3 x 43.3	18.1 x 34.5	18.1 x 34.5	18.1 x 34.5	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	175 lbs	175 lbs	240 lbs	240 lbs	240 lbs	350 lbs	420 lbs
Flow Rate @ 15 psi Pressure Drop	11.6 gpm	12.0 gpm	10.4 gpm	11.0 gpm	11.2 gpm	12.2 gpm	12.6 gpm
Flow Rate @ 25 psi Pressure Drop	15.6 gpm	16.0 gpm	14.3 gpm	15.0 gpm	15.1 gpm	16.2 gpm	16.6 gpm
Back Wash Flow Rate	2.0 gpm	2.4 gpm	1.5 gpm	2.0 gpm	2.4 gpm	3.5 gpm	5.0 gpm
Shipping Weight	93 lbs	110 lbs	105 lbs	122 lbs	155 lbs	172 lbs	244 lbs
Regeneration Type	Counter Current / Up Flow						
Maximum Efficiency	5,060 grains /lb salt						
Plumbing Connections	¾" and 1" connections						
Resin Type	Aquafine 8% High Capacity Ion Exchange Resin						
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA						
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit						
Water Pressure	Min. 20 - Max. 125 psi						



ECONOFLO SERIES WATER SOFTENER

The economical and reliable EconoFlo Series Water Softener offers simple electronics for the same price as mechanical metered units. Offer your customers more for less. Manually index cycle position for easier, faster installation and service.

All Systems Include:

- ▶ NSF Certified pressure tank
- ▶ NSF Certified control valve
- ▶ WQA Gold Seal Certified cation resin
- ▶ 48 hour self charging battery back-up
- ▶ Pre-installed bypass
- ▶ Injection molded brine grids (twin tanks only)



Uses 50% Less Salt  
28% Less Water\*

**TO CHANGE SETTINGS:**

- Press SETTINGS key to advance to TIME OF DAY. TIME OF DAY will flash.
- Press the UP or DOWN key to adjust the TIME OF DAY. Press & hold the UP or DOWN key to quickly advance the hour & minutes. When desired time is displayed press SELECT to advance to the HARDNESS setting. HARDNESS will flash.
- Press the UP or DOWN key to adjust the HARDNESS (Min 1 / Max 199). When desired hardness is displayed press SELECT to advance to the PEOPLE setting (Min 1 / Max 9). PEOPLE will flash.
- When desired number of people is displayed press SELECT to complete programming.

**FOR MANUAL REGENERATION:**

- Turn knob clockwise to 'Backwash' position. Unit will complete a regeneration and return to 'Service' position

Simpler than  
setting your  
alarm clock!



\*Compared to conventional calendar clock models

Model Number	Item Number	Capacity - Grains			Flow Rate		Mineral Tank Size (Inches)	Total Resin (cu. ft.)	Cabinet or Brine Tank Size Inches (WXDXH)	Salt Capacity (lbs)	Shipping Weight (lbs)
		@ 10 lbs/cu ft	@ 6 lbs/cu ft Factory Setting	@ 3 lbs/cu ft	Service USGPM	Backwash USGPM					
EFC20	2117	19,875	16,500	10,500	8	2	9X35	0.75	13.8 X 23.6 X 34.5	225	93
EFC30	2118	26,500	22,000	14,000	10	2.4	10X35	1	13.8 X 23.6 X 34.5	225	110
EFT20	2119	19,875	16,500	10,500	8	2	9X35	0.75	16.6X 16.7 X 61	230	93
EFT30	2120	26,500	22,000	14,000	10	2.4	10X35	1	16.6X 16.7 X 61	230	110
EFT40	2121	33,125	27,500	17,500	12	2.4	10X47	1.25	16.6X 16.7 X 61	230	141
EFT60	2122	53,000	44,000	28,000	13	3.5	12X52	2	18.9 X 18.9 X65.6	270	158
EFT90	2123	79,500	66,000	42,000	15	5	14X65	3	24.6 X 24.6 X 84	700	244
Regeneration Type		Co current / Down Flow									
Plumbing Connections		Includes 3/4" 90°Elbows & 1" Straight NPT									
Resin Type		Aquafine 8% High Capacity Ion Exchange Resin									
Electrical Requirements		Input 120V 60 Hz - Output 12V 650mA									
Water Temperature		Min 39 - Max. 100 degrees Fahrenheit									
Water Pressure		Min. 20 - Max. 125 psi									



WATER SOFTENERS

EcoSmart Series Water Softener



ECS-20

#15010410

ECS-24

#15010411

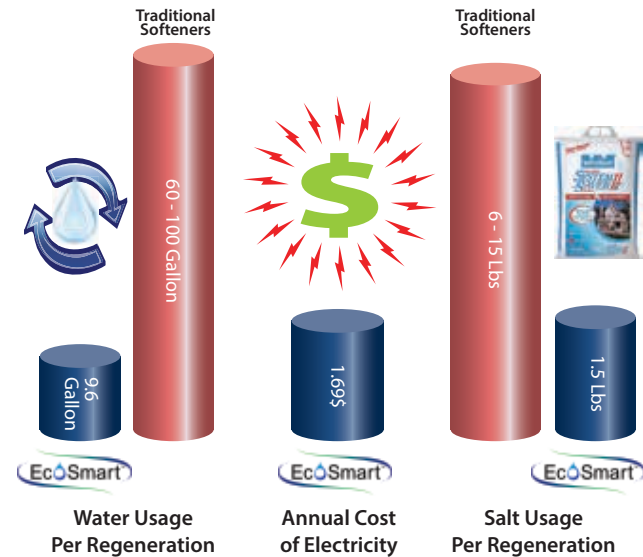
ECS-34/39

#15010412 (ECS-34)  
#15010414 (ECS-39)

Features:

- ➔ Engineered for ultimate efficiency on clean municipal water applications
- ➔ Compact design for small spaces
- ➔ Uses over 75% less salt & water than conventional water softeners
- ➔ EcoSmart™ Intelligent electronic control:
  - Simple intuitive electronics. No confusing codes or symbols!
  - Rotating performance information display!
  - Adjustable cycles for peak efficiency!
- ➔ High-efficiency fine mesh cation resin
- ➔ Quality injection & blow molded cabinet
- ➔ Push release hinged salt lid for easy salt refill
- ➔ Brine safety valve provides additional overflow protection
- ➔ ECS-34 model not only softens but also filters out bad tastes & odors caused by chlorine & organics
- ➔ Removes up to 10 ppm ferrous iron

Eco-Friendly Efficiency



Quality & Warranty

EcoSmart™ Water Softeners are built to last! All softeners are third party certified to meet the industry's most exacting standards and backed by one of the industries strongest warranties:

- Seven Year System Warranty
- Lifetime Pressure Tank & Cabinet Warranty



7 Year Warranty Control Valve



Lifetime Warranty Pressure tank



EcoSmart™ control valve & pressure tanks are NSF Certified



WQA Tested & Certified to NSF/ANSI 44 for effective reduction of hardness as verified and substantiated by test data.

Compact Design

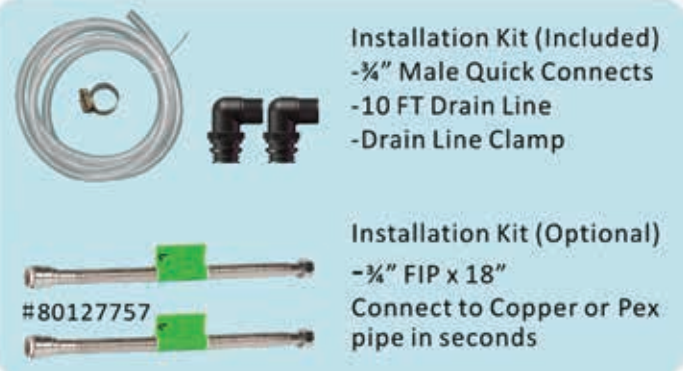
Super compact design is perfect for main floor laundry or where space is at a premium!



Easy Installation

Complete installation kit including bypass, plumbing fittings & drain tubing. Quick connect fittings for simple installation. Includes easy to follow installation guide.

- ➔ 3/4" 90 degree elbows & 1" straight NPT quick connect adaptors



Installation Kit (Included)  
- 3/4" Male Quick Connects  
- 10 FT Drain Line  
- Drain Line Clamp

Installation Kit (Optional)  
- 3/4" FIP x 18"  
Connect to Copper or Pex pipe in seconds

Specifications	ECS-20 Item #15010410	ECS-24 Item #15010411	ECS-34 Item #15010412	ECS-39 Item #15010414
Maximum Hardness Removal	19,500 grains	24,180 grains	34,320 grains	39,000 grains
Factory Settings - High Efficiency				
Salt Used	1.5 lbs	2.1 lbs	2.4 lbs	3.0 lbs
Water Used	9.6 gal	11.7 gal	15.8 gal	17.9 gal
System Capacity	7,300 grains	10,200 grains	11,700 grains	15,400 grains
High Capacity Settings				
Salt Used	3.0 lbs	3.7 lbs	5.3 lbs	6.0 lbs
Regeneration Water Used	16.9 gal	21.4 gal	32.5 gal	34.6 gal
System Capacity	12,000 grains	16,800 grains	19,200 grains	25,000 grains
Coconut Activated Carbon	No	No	Yes	No
Integrated Meter in Bypass	Yes	Yes	Yes	Yes
Plumbing Connections	3/4" or 1"	3/4" or 1"	3/4" or 1"	3/4" or 1"
Flow Rate @ 15 psi Pressure Drop	10.9 gpm	10.2 gpm	10.0 gpm	10.0 gpm
Salt Storage Capacity	80 lbs	120 lbs	170 lbs	170 lbs
Shipping Weight	58.5 lb	68.3 lb	84.3 lb	87.5 lb
Maximum Efficiency	5,600 grains /lb salt			
Electrical Requirements	120V 50/60 Hz			
Maximum Water Temperature	120 degrees Fahrenheit			
Water Pressure	min. 20 - max. 120 psi			
Foot Print	13 inches wide x 18 inches long			



# SHOWER SOFTENER

Just want soft water for your shower? This compact water-proof shower unit requires no electricity. The one-step manual regeneration is easy to operate. Small portable design makes it perfect for non-winterized cottages.



**Features:**

- ➔ Easy installation
- ➔ No electricity required
- ➔ Waterproof slide cover
- ➔ One step regeneration process

Item #	Model	Mineral Tank Size (IN)	Resin Cu Ft	Brine Tank / Cabinet Size Inches (WxDxH)	Ship Weight (Lbs)
15180001	SHOWER SOFTENER	7 x 13	0.22	8.7 x 14.2 x 19.2	20

# WHOLE-HOUSE AUTOMATIC WATER FILTERS

**Protect Your Plumbing From Bad Taste and Odor Caused by Chlorine and Other Chemicals.**

**Remove Disinfectants From Your Water**

Once water arrives safely at your home there is no further need for disinfectants. In fact they are undesirable!

- ➔ Taste and bad odor
- ➔ Dry skin
- ➔ Damage plumbing
- ➔ Can produce potentially harmful by-products

**Leaky Faucet or Toilet?**

Chlorine is a strong oxidant that quickly **destroys plastic & rubber seals & gaskets** in appliances & plumbing causing leaks.

**Pin Hole Leaks in Pipes!**

Chloramines are **corrosive** by nature and will eventually cause costly damage to plumbing – causing pitting & pin hole leaks.





# NOVOCLEAR 485HE SERIES WATER FILTERS

Problem water is no problem with our full line of NovoClear 485 Water Filters. Eliminate iron, sediment, bad tastes, stains and odors, as well as, color caused by organics. The high-efficiency control valve monitors water usage and flushes the system automatically, readying it for operation again.

- ➔ **Taste & Odor Filters:** Chlorine and organic matter can make your water smell and taste terrible. The **NovoClear 485 Taste & Odor filter** uses high-quality granular activated carbon to absorb the problem-causing substances.
- ➔ **Chloramine removal Filters:** Chloramines are now commonly used to disinfect municipal water supplies causing taste & odor problems. To remove chloramines a special catalytically enhanced carbon is required.
- ➔ **Multi Media Filters:** Cloudy water means you likely have suspended silt: or sediment. Restore your water to crystal clear as the **NovoClear 485 Multi-Media** filter traps particulate matter as small as 20 microns.
- ➔ **Nexsand Turbidity Filters:** Remove suspended solids, Ferric Hydroxide (Red Water Iron) or Sediment from your well or water system down to 5 Microns. Nexsand has proven extremely effective and will double the service flow of Multi Media or Sand Filters.
- ➔ **Neutralizing Filters:** The **NovoClear 485 Neutralizing** filters raise the pH of acidic water to neutralize corrosiveness protecting fixtures, pipes and appliances.
- ➔ **Iron & Sulfur Filters:** Water comes in contact with manganese greensand causing oxidization into solids which can be trapped in the filter bed

## Features:

- ➔ Exclusive NSF Certified control valve with reliable electronic sensors, adjustable cycle time and proven piston, seal & spacer design
- ➔ NSF Certified fibreglass pressure tank
- ➔ Tank jackets reduce condensation. Standard on 8", 9" & 10" tanks
- ➔ User-friendly backlit LCD display
- ➔ Simple set up and programming with no confusing codes or symbols to remember
- ➔ Automatic Vacation Mode prevents media cementing
- ➔ "No Touch" LCD information display rotates key info like last regeneration date, current flow rate & peak flow rate
- ➔ Unique, compact one piece bypass with integrated turbine meter
- ➔ Time saving quick connect fittings on bypass, drain & brine line. Even the power cord has quick connects
- ➔ Drain line o-ring. No need for Teflon
- ➔ Audible Cycle Advance Alarm
- ➔ 48 hour self charging battery back-up
- ➔ Meter Immediate, Meter Delayed, and Meter with Day Over ride
- ➔ Includes hose clamp and 10' of drain tubing



Chloramine (CLA) Units use Two Tank System for effective reduction of chloramines



7 Year Warranty Control Valve



Lifetime Warranty Pressure tank

# FILTER SPECIFICATIONS

Specifications	485MM-75	485MM-100	485MM-150	485MM-200	485MM-300
	15054001	15054002	15054003	15054004	15054005
Normal Service Flow Rate	4.0 gpm	5.0 gpm	7.0 gpm	10.0 gpm	12.0 gpm
Peak Service Flow Rate	5.0 gpm	7.0 gpm	10.0 gpm	12.0 gpm	15.0 gpm
Micron Rating	15-20 micron	15-20 micron	15-20 micron	15-20 micron	15-20 micron
Backwash Flow Rate	4.0 gpm	5.0 gpm	7.0 gpm	10.0 gpm	14.0 gpm
Filter Media Volume - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Filter Tank Size	8x44	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	Yes	No	No
Shipping Weight	79 lbs	118 lbs	144 lbs	198 lbs	342 lbs

Specifications	485TO-75	485TO-100	485TO-150	485TO-200	485TO-300
	15054006	15054007	15054008	15054009	15054010
Normal Service Flow Rate	4.0 gpm	5.0 gpm	7.0 gpm	10 gpm	12.0 gpm
Peak Service Flow Rate	5.0 gpm	7.0 gpm	10.0 gpm	12.0 gpm	15.0 gpm
Backwash Flow Rate	3.5 gpm	4.0 gpm	5.0 gpm	7.0 gpm	10.0 gpm
Filter Media Volume - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Filter Tank Size	8x44	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	Yes	No	No
Shipping Weight	50 lbs	60 lbs	78 lbs	95 lbs	138 lbs

Specifications	485NU-75	485NU-100	485NU-150	485NU-200	485NU-300
	15054011	15054012	15054013	15054014	15054015
Normal Service Flow Rate	2.0 gpm	3.0 gpm	5.0 gpm	6.0 gpm	7.0 gpm
Peak Service Flow Rate	3.5 gpm	5.0 gpm	8.0 gpm	10.0 gpm	12.0 gpm
Backwash Flow Rate	3.5 gpm	4.0 gpm	5.0 gpm	7.0 gpm	10.0 gpm
Filter Media Volume - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Filter Tank Size	8x44	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	Yes	No	No
Shipping Weight	93 lbs	120 lbs	164 lbs	207 lbs	330 lbs

Specifications	485IS-75	485IS-100	485IS-150	485IS-200	485IS-300
	15054016	15054017	15054018	15054019	15054020
Normal Service Flow Rate	3.0 gpm	3.0 gpm	4.0 gpm	5.0 gpm	6.0 gpm
Peak Service Flow Rate	4.0 gpm	5.0 gpm	8.0 gpm	10.0 gpm	12.0 gpm
Backwash Flow Rate	3.5 gpm	4.0 gpm	5.0 gpm	7.0 gpm	10.0 gpm
Compensated Iron Removal Capacity	4,500 ppm	6,000 ppm	9,500 ppm	12,000 ppm	18,000 ppm
KMnO4 per Regen	4 oz	4 oz	4 oz	8 oz	8 oz
Filter Media Volume - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Filter Tank Size	8x44	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	Yes	No	No
Shipping Weight	113 lbs	129 lbs	179 lbs	233 lbs	352 lbs
Maximum Combination of Iron X 1, Manganese X 2, H <sub>2</sub> S X3		10.0 ppm	Maximum Hydrogen Sulfide		3.0 ppm
Maximum Iron (Ferrous)		7.0 ppm	Maximum Manganese		5.0 ppm
Bacterial Iron		0.0 ppm	Minimum pH		7.0

Specifications	485NEX-75	485NEX-100	485NEX-150	485NEX-200
	15054029	15054030	15054033	15044034
Normal Service Flow Rate	4.0 gpm	5.0 gpm	8.0 gpm	10.0 gpm
Peak Service Flow Rate	7.0 gpm	8.0 gpm	10.0 gpm	12 gpm
Micron Rating	3-5 micron	3-5 micron	3-5 micron	3-5 micron
Backwash Flow Rate	5.0 gpm	7.0 gpm	10.0 gpm	14.0 gpm
Filter Media Volume - Cubic Feet	0.75 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>
Filter Tank Size	8x44	9x48	10x54	12x52
Tank Jacket	Yes	Yes	Yes	No
Shipping Weight	90 lbs	135 lbs	205 lbs	255 lbs

Specifications	485CLA-75	485CLA-100	485CLA-150	485CLA-200
	15054035	15054036	15054037	15054038
Recommended Flow Rates	4.0 gpm	5.0 gpm	7.5 gpm	10.0 gpm
Backwash Flow Rate	3.5 gpm	4.0 gpm	5.0 gpm	7.0 gpm
Filter Media Volume - Cubic Feet	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>	4.0 ft <sup>3</sup>
Filter Tank Size (qty 2)	8x44	9x48	10x54	12x52
Tank Jacket	Yes	Yes	Yes	No
Shipping Weight	100 lbs	120 lbs	155 lbs	190 lbs
Carbon Type	Canature Catalytic Carbon			

All Filters	
Plumbing Connections	3/4" and 1" connections
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit
Water Pressure	Min. 20 - Max. 125 psi



# NOVOCLEAR 465HE BIF CHEMICAL FREE IRON FILTER



Uses up to 50% less water!

### Features:

- ➔ Natural oxidation removes iron, manganese and sulphur without chemicals, air pumps or a venturi
- ➔ Low maintenance two tank system
- ➔ Regenerates less frequently than traditional iron filters using up to 50% less water than manganese greensand filters
- ➔ NSF Certified electronic control valve
- ➔ NSF Certified fibreglass pressure tanks
- ➔ Meter Immediate, Meter Delayed, Meter with Day Override, Vacation and Calendar Clock mode
- ➔ Adjustable cycle times
- ➔ Unique bypass with an integrated space saving turbine meter and sample port on the inlet. One-piece design avoids meter jamming
- ➔ Time saving quick connect fittings on bypass
- ➔ Quick connect drain line o-ring eliminates need for Teflon
- ➔ Power cord even has quick connect for easy valve spin on
- ➔ Hose clamp and 10' of drain tubing included



7 Year Warranty Control Valve



Lifetime Warranty Pressure tank

Item #	Model	Media Cu Ft	Flow Rate USGPM			Mineral Tank Size	Air Contact	Pipe Size Inches	Ship Weight
			Service	Peak	Backwash				
15050092	NVO465BIF-75	0.75	2.0	5.0	3.5	8 x 44	8 x 44	3/4"	132
15050051	NVO465BIF-100	1.0	3.0	6.0	4.0	10 x 44	8 x 44	3/4"	150
15050067	NVO465BIF-150	1.5	4.0	10.0	5.0	10 x 54	10 x 54	3/4"	188
15050093	NVO465BIFMN-75	0.75	2.0	5.0	3.5	8 x 44	8 x 44	3/4"	132
15050071	NVO465BIFMN-100	1.0	3.0	6.0	4.0	10 x 44	8 x 44	3/4"	150
15050072	NVO465BIFMN-150	1.5	4.0	10.0	5.0	10 x 54	10 x 54	3/4"	188

\*MN Models for low pH and/or high manganese applications

# NOVO NRV (NON-REGENERATING VALVE) WHOLE HOUSE CARBON FILTER

## Economical Reduction of Chlorine, Chloramines and other Bad Taste & Odors.

### Features:

- ➔ Economical whole-house carbon filtration solution for reducing chlorine (TO models), HS2 reduction in warm climates (TOK models) and other bad tastes and odors
- ➔ Factory installed one-piece bypass with incorporated meter
- ➔ Time saving quick connect fittings (90° ¾" NPT Elbows and 1" Straight NPT) included for faster, easier installation. Optional quick connect SharkBite® fittings also available.
- ➔ Five year warranty on Distribution Head
- ➔ Ten Year Warranty on NSF Certified tank



5 Year Warranty Distribution Head



10 year Warranty NSF Certified Tank



Economical non-back-washing distribution head with convenient quick connect fittings



Specifications	NRV TO-100 15054073	NRV TO-150 15054074	NRV TOK-100 15054075	NRV TOK-150 15054076
Service Flow Rates				
Normal	5.0 gpm	7.0 gpm	5.0 gpm	7.0 gpm
Peak	7.0 gpm	10.0 gpm	7.0 gpm	10.0 gpm
Filter Media Volume - Cubic Feet	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>
Filter Tank Size	9x48	10x54	9x48	10x54
Media Type	Coconut Carbon	Coconut Carbon	Coconut Carbon with KDF Distributor	Coconut Carbon with KDF Distributor
Media Loaded	Yes	Yes	Yes	Yes
KDF Protector	No	No	Yes	Yes
Tank Jacket	No	No	No	No
Shipping Weight	60 lbs	78 lbs	60 lbs	78 lbs
Plumbing Connections	Includes 3/4" 90°Elbow and 1" connections is Included.			
Electrical Requirements	None			
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit			
Water Pressure	Max. 125 psi			



# SPECIALTY SYSTEMS

## Soften & Filter Problems From Your Water

Many ground water supplies often have multiple problems that are not only an issue from an aesthetic standpoint but in terms of cost when pipes become clogged, fixtures stained and laundry discolored.

Combination units provide one solution for multiple problems saving you space and money

## NovoClear 485 HE Series Specialty Combination Systems

Novo offers a variety of specialty systems to fix a variety of water problems commonly found in combination in one water supply.

### Types of Specialty Systems:

- SIM Series**  
Softener, Iron and Manganese Combination Removal
- ST Series**  
Softener, Tannin and Color Combination Removal
- SIMTAN Series**  
Softener, Iron, Manganese & Tannin Removal



All systems include Easy Feeder plus 64 oz bottle of Res Care.



7 Year Warranty Control Valve



Lifetime Warranty Pressure tank



SIM /ST Series



SIMTAN Series

### SIM Series Specifications

Specifications	485SIM-100	485SIM-150	485SIM-200	485SIM-300
	15010460	15010461	15010462	15010463
<b>Factory Settings - Iron &amp; Manganese</b>				
Salt Used - Per Regeneration	12.0 lbs	18.0 lbs	24.0 lbs	36.0 lbs
Water Used - Regeneration	52.2 gal	74.4 gal	101.4 gal	166 gal
Hardness Removal - Grains	30,000	45,000	60,000	90,000
Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	No	No
Brine Tank / Cabinet Size (Inches)	18.1 x 34.5	20.3 x 37.4	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	240 lbs	350 lbs	350 lbs	420 lbs
Flow Rate @ 15 psi Pressure Drop	11.0 gpm	11.2 gpm	12.2 gpm	12.6 gpm
Flow Rate @ 25 psi Pressure Drop	15.0 gpm	15.1 gpm	16.2 gpm	16.6 gpm
Back Wash Flow Rate	2.1 gpm	2.4 gpm	3.5 gpm	5.0 gpm
Shipping Weight	125 lbs	158 lbs	175 lbs	247 lbs
Regeneration Type	Co-Current / Down Flow			
Maximum Hardness	75 Grains Per Gallon			
Maximum Iron (Ferrous)	10 ppm			
Maximum Manganese	5 ppm			
Resin Type	Aquafine High Efficiency Cation Ion Exchange Resin			

### SIMTAN Series Specifications

Specifications	485SIMTAN-100	485SIMTAN-150	485SIMTAN-200	485SIMTAN-300
Purolite 850 Models*	15010480	15010481	15010482	15010483
Purolite 860 Models*	15011480	15011481	15011482	15011483
<b>Factory Settings - High Capacity</b>				
Salt Used - Per Regeneration	12.0 lbs	18.0 lbs	24.0 lbs	24.0 lbs
Water Used - Regeneration	64.3 gal	90.3 gal	124.6 gal	196.2 gal
Hardness Removal - Grains	30,000	45,000	60,000	90,000
Tannins Removal	2000 ppm	3000 ppm	4000 ppm	6000 ppm
Tank #1 Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank #2 Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	No	No
Brine Tank / Cabinet Size (Inches)	18.1 x 34.5	20.3 x 37.4	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	240 lbs	350 lbs	350 lbs	420 lbs
Recommended Service Flow Rate	3.0 gpm	4.5 gpm	6.0 gpm	9.0 gpm
Flow Rate @ 15 psi Pressure Drop	7.3 gpm	7.5 gpm	8.3 gpm	9.3 gpm
Flow Rate @ 25 psi Pressure Drop	10.0 gpm	10.1 gpm	11.1 gpm	11.4 gpm
Back Wash Flow Rate	2.0 gpm	2.4 gpm	3.5 gpm	5.0 gpm
Shipping Weight	125 lbs	158 lbs	161 lbs	247 lbs
Regeneration Type	Co-Current / Down Flow			
Maximum Hardness	75 Grains Per Gallon			
Maximum Tannins	3.0 ppm (Contact Customer Service for higher levels)			
Maximum Iron (Ferrous)	10.0 ppm			
Maximum Manganese	5.0 ppm			
Resin Type	Aquafine Cation / Anion Exchange Resin			
* CALL CUSTOMER SERVICE TO DETERMINE CORRECT MODEL. WATER TEST RESULTS REQUIRED				

### ST Series Specifications

Specifications	485ST-150	485ST-200	485ST-300
	15010470	15010471	15010472
<b>Factory Settings - High Capacity</b>			
Salt Used - Per Regeneration	18.0 lbs	24.0 lbs	36.0 lbs
Water Used - Regeneration	74.4 gal	101.4 gal	166 gal
Resin Quantity - Cubic Feet	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	No	No
Brine Tank / Cabinet Size (Inches)	20.3 x 37.4	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	350 lbs	350 lbs	420 lbs
Recommended Service Flow Rate	3.0 gpm	3.0 gpm	6.0 gpm
Flow Rate @ 15 psi Pressure Drop	11.2 gpm	12.2 gpm	12.6 gpm
Flow Rate @ 25 psi Pressure Drop	15.1 gpm	16.2 gpm	16.6 gpm
Back Wash Flow Rate	2.4 gpm	3.5 gpm	5.0 gpm
Shipping Weight	158 lbs	175 lbs	247 lbs
Regeneration Type	Co-Current / Down Flow		
Maximum Hardness	20 Grains Per Gallon		
Maximum Tannins	1.0 ppm		
Resin Type	Aquafine Cation / Anion Exchange Resin		

All Specialty Systems	
Plumbing Connections	¾" and 1" connections
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit
Water Pressure	Min. 20 - Max. 125 psi



NOVO TAN SERIES TANNIN REMOVAL

This system uses Anion exchange resin to remove color caused by organic decay - greatly improving aesthetics and preventing costly staining.



Specifications	485TAN-100	485TAN-150	485TAN-200	485TAN-300
Purolite 850 Models*	15010489	15010490	15010491	15010492
Purolite 860 Models*	15011489	15011490	15011491	15011492
Factory Settings - High Capacity				
Salt Used - Per Regeneration	12.0 lbs	18.0 lbs	24.0 lbs	36.0 lbs
Water Used - Regeneration	64.3 gal	90.3 gal	124.6 gal	196.2 gal
Tannins Removal	2000 ppm	3000 ppm	4000 ppm	6000 ppm
Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	No	No
Brine Tank	18.1 x 34.5	20.3 x 37.4	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	240 lbs	350 lbs	350 lbs	420 lbs
Recommended Service Flow Rate	3.0 gpm	4.5 gpm	6.0 gpm	9.0 gpm
Flow Rate @ 15 psi Pressure Drop	11.0 gpm	11.2 gpm	12.2 gpm	12.6 gpm
Flow Rate @ 25 psi Pressure Drop	15.0 gpm	15.1 gpm	16.2 gpm	16.6 gpm
Back Wash Flow Rate	2.0 gpm	2.4 gpm	3.5 gpm	5.0 gpm
Shipping Weight	122 lbs	155 lbs	158 lbs	244 lbs
Regeneration Type	Co-Current / Down Flow			
Maximum Tannins	3.0 ppm (Contact Customer Service for higher levels)			
Plumbing Connections	¾" and 1" connections			
Resin Type	Canature Anion Resin			
Electrical Requirements	Input 120V 60 Hz - Output 12V 550mA			
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit			
Water Pressure	Min. 20 - Max. 125 psi			

\* CALL CUSTOMER SERVICE TO DETERMINE CORRECT MODEL. WATER TEST RESULTS REQUIRED

NOVOCLEAR 485 HTO HARDNESS, TASTE & ODOR REMOVAL

Rid your water of hardness & bad tastes and odor caused by chlorine, chloramines or organic matter.

The unique two tank system keeps the two media beds separate and allows for more carbon contact improving chlorine, chloramines and organic removal.

Because the carbon may need to be replaced before the softening resin, the two tank system allows for replacement without having to change the resin bed unlike many traditional mixed bed systems. Same benefit as separate systems but with cost of only one control valve.



Features:

- ➔ Dedicated softening & carbon filtration tanks provide truly refined water
- ➔ NSF Certified control valve with electronic sensors, adjustable cycles & proven piston, seal & spacer design
- ➔ Reverse Flow regeneration preserves unused portion of softening bed from unnecessary exchange saving salt
- ➔ Precision brining calculates the exact amount of brine required to regenerate saving up to 30% more salt
- ➔ Backwash Frequency Preset for clean municipal water saves water by matching backwash to water quality need
- ➔ Soft Water brine tank refill keeps tank & injectors clean
- ➔ Automatic system refresh flushes stagnant water
- ➔ NSF Certified fibreglass pressure tank
- ➔ WQA Gold Seal Certified cation resin
- ➔ User-friendly backlit LCD display
- ➔ “No Touch” rotating information display
- ➔ Unique bypass with integrated turbine meter saves space, eliminates connections
- ➔ Time saving quick connect fittings on bypass, drain line, brine line & power cord
- ➔ Drain line o-ring. No need for Teflon
- ➔ Brine safety valve provides added overflow protection
- ➔ Plastic salt grid prevents bridging
- ➔ 48 hour self charging battery back-up
- ➔ Includes hose clamp & 10’ of drain tubing

Specifications	485HTO-100	485HTO-150	485HTO-200	485HTO-300
	15010484	15010485	15010486	15010487
Factory Settings				
Salt Used - Per Regeneration	6.0 lbs	9.0 lbs	12.0 lbs	18.0 lbs
Water Used - Regeneration	86.4 gal	148 gal	162.4 gal	224.8 gal
Hardness Removal - Grains	25,000	37,500	50,000	75,000
Tank #1 Carbon Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.50 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank #2 Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.50 ft <sup>3</sup>	2.0 ft <sup>3</sup>	3.0 ft <sup>3</sup>
Tank Size	9x48	10x54	12x52	14x65
Tank Jacket / Media Loaded	Yes	Yes	No	No
Brine Tank / Ca	18.1 x 34.5	18.1 x 34.5	20.3 x 37.4	23.0 x 40.5
Salt Storage Capacity	240 lbs	240 lbs	350 lbs	420 lbs
Flow Rate @ 15 psi Pressure Drop	7.2 gpm	7.4 gpm	9.0 gpm	9.2 gpm
Flow Rate @ 25 psi Pressure Drop	10.0 gpm	10.1 gpm	11.9 gpm	12.1 gpm
Back Wash Flow Rate	2.4 gpm	3.5 gpm	4.0 gpm	5.0 gpm
Shipping Weight	154 lbs	171 lbs	214 lbs	232 lbs
Regeneration Type	Counter Current / Up Flow			
Plumbing Connections	¾" or 1"			
Resin Type	Aquafine 8% High Capacity Ion Exchange Resin			
Carbon Type	Canature Catalytic Carbon			
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA			
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit			
Water Pressure	Min. 20 - Max. 125 psi			



# NOVO 485 HEDP DUAL PASS SOFTENING SYSTEM

On very hard water supplies (> 75 gpg), a common problem with single tank water softeners is the occurrence of hardness leakage or ‘slippage’ as the extreme hardness will find a channel through the resin bed.

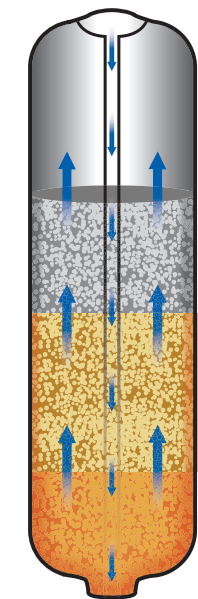
The Novo High-Efficiency Dual Pass (HEDP) Water Softener uses a two tank system to prevent this problem. The first tank acts as the workhorse by significantly reducing the water hardness. The second tank acts as a ‘polisher’ and prevents slippage as the overpowering high hardness condition has been significantly reduced. This also increases the contact time with the softening resin meaning more consistent, softer water.

Salt efficiency is even more important on high hardness situations. The Novo HEDP offers salt-efficient reverse flow regeneration with precision brining for ultimate salt savings.



Features:

- Two tank system provides softer, more consistent water quality and prevents hardness slippage which can occur in single tank systems
- Perfect for high hardness (typically > 75 gpg) residential and light commercial applications such as boiler feed systems
- More cost effective than larger single tank systems
- **Reverse Flow Regeneration** preserves unused portion of softening bed from unnecessary exchange saving salt
- **Precision Brining** calculates the exact amount of brine required to regenerate saving up to 30% more salt
- **Backwash Frequency Preset** for clean municipal water saves water by matching backwash to water quality need
- **Soft Water Brine Tank Refill** keeps tank & injectors clean
- **Automatic Vacation Mode** flushes stagnant water



Reverse flow regeneration saves salt by pushing the hardness minerals up & out to drain instead of down through the sodium-charged portion of the softener bed needlessly depleting it.

Specifications	48SHEDP-100	48SHEDP-150	48SHEDP-200	48SHEDP-250
	15010495	15010496	15010497	15010498
Factory Settings				
Salt Used - Per Regeneration	12.0 lbs	18.0 lbs	24.0 lbs	30.0 lbs
Water Used - Regeneration	86.4 gal	148 gal	162.4 gal	224.8 gal
Hardness Removal - Grains	50,000	75,000	100,000	125,000
Tank #1 Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.50 ft <sup>3</sup>	2.0 ft <sup>3</sup>	2.5 ft <sup>3</sup>
Tank #2 Resin Quantity - Cubic Feet	1.0 ft <sup>3</sup>	1.50 ft <sup>3</sup>	2.0 ft <sup>3</sup>	2.5 ft <sup>3</sup>
Tank Size	9x48	10x54	12x52	13x54
Tank Jacket / Media Loaded	Yes	Yes	No	No
Brine Tank	20.3 x 37.4	23.0 x 40.5	23.0 x 40.5	23.0 x 40.5
Salt Storage Capacity	350 lbs	420 lbs	420 lbs	420 lbs
Flow Rate @ 15 psi Pressure Drop	7.2 gpm	7.4 gpm	9.0 gpm	9.2 gpm
Flow Rate @ 25 psi Pressure Drop	10.0 gpm	10.1 gpm	11.9 gpm	12.1 gpm
Back Wash Flow Rate	2.0 gpm	2.4 gpm	3.5 gpm	4.0 gpm
Shipping Weight	184 lbs	201 lbs	244 lbs	262 lbs
Regeneration Type	Counter Current / Up Flow			
Plumbing Connections	¾" or 1"			
Resin Type	Aquafine 8% High Capacity Ion Exchange Resin			
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA			
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit			
Water Pressure	Min. 20 - Max. 125 psi			

# NOVO 485 NEUTRASOFT TWO TANK WATER CONDITIONING SYSTEM

## Neutralize Corrosiveness & Remove Hardness to Protect Fixtures, Pipes & Appliances

Acidic waters on contact slowly dissolve the Calcite media contained in the first tank to raise the pH which reduces the potential leaching of copper, lead and other metals typically found in plumbing systems.

As the Calcite neutralizes the water, it will increase the hardness of the water. The second tank contains cation exchange resin to remove the hardness leaving you with pH balanced, luxuriously soft water.

Features:

- Economical two tank system is operated using one control valve. Simplifies installation and lowers cost.
- Dome hole neutralizing tank allows for easy replenishment of consumable calcite media
- Exclusive Novo 485 Series control valve with reliable electronic sensors, piston, seals and spacer technology
- High-efficiency upflow regeneration for ultimate salt savings and softer water
- Time saving quick connect fittings for faster, easier installation
- Factory installed one-piece bypass with incorporated meter
- Fully adjustable cycle times
- Meter Immediate, Meter Delayed, Meter with Day Override
- Integrated turbine meter
- 48 hour self charging battery back-up keeps time-of-day stored while program settings are kept in permanent memory
- Large user friendly color display shows time of day, total remaining capacity, and flow indication
- Simple electronics and programming.
- Lifetime Warranty on NSF Certified tank
- Seven year warranty on NSF Certified control valve



Specifications	SOFT / PH ADJUSTMENT UNIT
Service Flow Rates	
Normal	5.0 gpm
Peak	8.0 gpm
Backwash Flow Rate	5.0 gpm
Filter Media Volume - Cubic Feet	1.5 ft <sup>3</sup>
Resin Quantity - Cubic Feet	1.5 ft <sup>3</sup>
Tank Size	10x54
Tank Jacket / Media Loaded	No
Brine Tank	18.1 x 34.5
Salt Storage Capacity	240 lbs
Shipping Weight	311 lbs
Regeneration Type	Counter Current / Up Flow
Plumbing Connections	Includes 3/4" 90°Elbows & 1" Straight NPT
Resin Type	Aquafine 8% High Capacity Ion Exchange Resin
pH Adjustment Media	Canature Calcite
Electrical Requirements	Input 120V 60 Hz - Output 12V 650mA
Water Temperature	Min 39 - Max. 100 degrees Fahrenheit
Water Pressure	Min. 20 - Max. 125 psi



Dome hole port on tank allows for easy replenishment of Calcite neutralizing media



BETTER,  
SAFER  
DRINKING  
WATER

AQUA FLO  
PLATINUM  
AQUA FLO

REVERSE OSMOSIS  
ULTRA FILTRATION  
UNDER SINK FILTRATION  
DESIGNER FAUCETS  
& ACCESSORIES



## AQUA FLO PLATINUM QCRO & QCUF DRINKING WATER SYSTEMS

### Customized Drinking Water

Water conditions can vary even in the same community. The Aqua Flo Platinum QCRO System can be configured to meet your specific requirements. There are ten interchangeable filters with a variety of treatment options that can be tailored to local water conditions, so your water is the best it can be.

If you're concerned about RO reject water or RO drain line makes installation difficult, we offer UltraFiltration (UF). \* The UF does not have a drain line to run, your cost is lesser than RO and there is no waste.

The innovative QC twist and lock design makes service simple. Twist off the old cartridge and twist on the new. No messy sump removal. Aqua Flo Platinum HP systems make drinking water better and life easier.

\* Check with water treatment specialist to recommend you an RO or UF system depending on your untreated water quality.

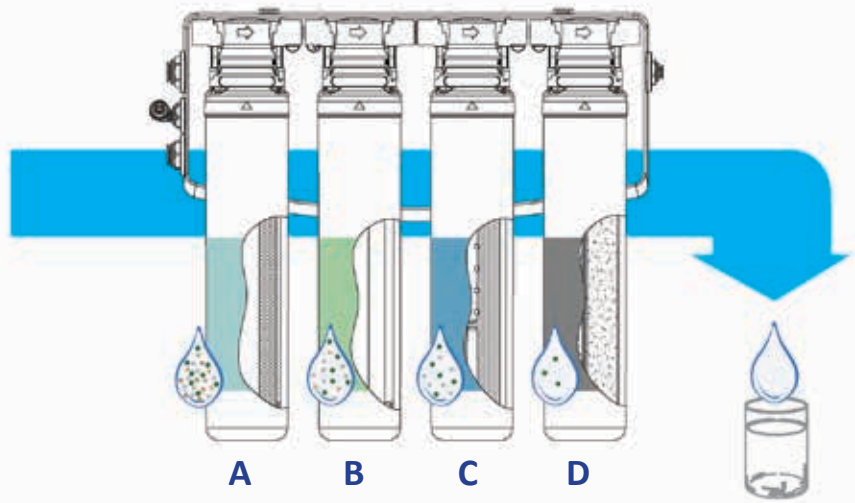
AQUA FLO  
PLATINUM



“THE INNOVATIVE  
QC TWIST AND LOCK  
DESIGN MAKES  
SERVICE SIMPLE.”







Quick glance on how Aqua Flo Platinum QCRO and QCUF works on water

- A Sediment Filters.** Screens out sediments and particles.
- B Carbon Filters.** Improve water’s taste and odor, including chlorine odor reduction.
- C Reverse Osmosis or Ultra filtration.** Reverse Osmosis Membrane reduce dissolved substances. Several membranes capacities are available. Ultra Filtration membrane reduce undissolved solids down to 0.1 Micron
- D Several filter options are available** depending on your local conditions and requirements.

Standard System Specifications\*

Model	QCRO4V-50	QCRO4V-75	QCUF
Number of Stages	4	4	4
Stage 1 (Pre-Filter)	Sediment Filter	Sediment Filter	Sediment Filter
Stage 2 (Pre-Filter)	Activated Carbon Filter	Activated Carbon Filter	Sediment Filter
Stage 3 (Membrane)	Thin Film Composite Membrane	Thin Film Composite Membrane	Ultra filtration Membrane
Stage 4 (Post-Filter)	Activated Carbon Filter	Activated Carbon Filter	Activated Carbon Filter
Output (GPD)†	50	75	720

\*Customized systems available upon request.

Conditions for Use

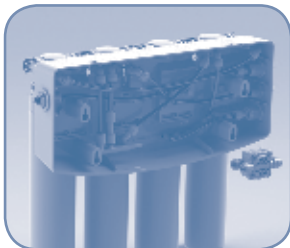
Feed Water Pressure *	276-690 kPa (40-100 psi)
Temperature	4-38° C (40-100° F)
Community/Private	Chlorinated/Non-Chlorinated
pH Range	3.0 - 11.0
Maximum TDS Level	2000 mg/L
Turbidity**	<1.0 NTU
Maximum SDI ***	<4.0
Hardness (CaCo3)	<171 mg/L (<10gpg)
Iron (Fe)	<0.1 mg/L
Manganese (Mn)	<0.05
Hydrogen Sulfide (H2S)	0
Residual Chlorine (Cl2)	<2.0

\*\* Nephelometric Turbidity Unit  
\*\*\* Silt Density Index: Value stated in SDI units  
† Manufacturer’s output specification only with inlet conditions of 345 kPa (50 psig), 25°C (77°F), going to atmosphere.

Notes:  
\* Pressure Regulator is recommended for feed water pressures exceeding 552 kPa (80 psig). The performance of a reverse osmosis membrane is highly dependent upon pressure, temperature and TDS. The actual volume of product water and rejection percentage will vary with differences from the test conditions that membrane ratings are based upon. These drinking water systems are not intended to be used for the treatment of water that is microbiologically unsafe or of unknown quality. Storage tank capacity is dependent on pressure. Example: with a 7 psi precharge, the drawdown volume is 2.16 gal at 60 psi, 1.79 gal at 40 psi for the storage tank shown



Easy maintenance of service components including line check valve and autoshut off



Filter Cartridge and Single Stage Standalone System Specifications

	Sediment Filter	Carbon Block Filter		GAC Carbon Filter	pH Booster Filter Cartridge	UF (Hollow Fiber) Membrane	Carbon Block - 1 Mic Filter	Scale Reduction
Purpose	Sediment Removal	Chlorine Taste and Odor		Polishing - Taste and Odor	Raise pH of water and removal of chlorine, taste and odor	Ultra Fine Filtration	Chlorine Taste and Odor, Particulate Reduction	Scale Inhibitor
Type	Polypropylene	Carbon Block		Granular Activated Carbon Filter	pH Booster and Remineralizer	Hollow Fiber Mechanical Filtration	Carbon Block	Scale Reduction
Micron	5	5	50	—	—	0.2	1	
Capacity*	2000 gallons				To be changed every 6 months	To be changed every 12 months	750 Gallons	1500 gallons
Minimum Flow Rate @ 60psi	0.5 gal/min							
Single Stage System Model #**	SEDQC1/4	CBQC1/4	CB50QC1/4	GACQC1/4	PHQC1/4	UFQC1/4	CB1QC1/4	SCALE-QC1/4

\* May vary depending on water quality    \*\* Single Stage Standalone System Port Connection Size - 1/4” Quick Connect

RO Membrane

Purpose	TDS Reduction
Type	Thin film Composite Membrane
Recovery	25%
TDS Reduction %	95%
Rating	50 and 75 GPD
Minimum Flow Rate @ 60psi	0.5 gal/min
Quick Change Filter Dimensions	7.54 x 30.9 (2.96” x 12.17”)
Inlet/Outlet Connections	1/4” Quick Connect
Working Temperature Range	4-38° C (40-100° F)
Working Pressure Range	207-628 kPa (30-120 psi)

PART #	DESCRIPTION
<b>Aqua Flo Platinum QCRO (Quick Change) Reverse Osmosis</b>	
1340302-60	QCRO4V-50 4 STAGE, 50GPD, METAL TANK, STD CHROME AG FAUCET
1340302-60-A	QCRO4V-50 4 STAGE, 50GPD, METAL TANK, 50 MICRON CARBON, STD CHROME AG FAUCET
1340302-60-D	QCRO4V-50 4 STAGE, 50GPD, METAL TANK, DELUXE CHROME AG VS888 FAUCET
1340303-60	QCRO4V-75 4 STAGE, 75GPD, METAL TANK, STD CHROME AG FAUCET
1340303-60-A	QCRO4V-75 4 STAGE, 75GPD, METAL TANK, 50 MICRON CARBON, STD CHROME AG FAUCET
1340303-60-D	QCRO4V-75 4 STAGE, 75GPD, METAL TANK, DELUXE CHROME AG VS888 FAUCET
<b>Aqua Flo Platinum QCUF (Quick Change) Ultra Filtration</b>	
1340201-60	QCUF 4 STAGE, ULTRAFILTRATION, STD FAUCET
1340201-60-D	QCUF 4 STAGE, ULTRAFILTRATION, DELUXE CHROME AG VS888 FAUCET
1340201-60-A	QCUF 4 STAGE, ULTRAFILTRATION, STD FAUCET, 50 MICRON CARBON
1340201-60-A-D	QCUF 4 STAGE, ULTRAFILTRATION,DELUXE CHROME AG VS888 FAUCET, 50 MICRON CARBON
1340201-60-A-D-S	QCUF 4 STAGE, ULTRAFILTRATION,DELUXE BRIGHT NICKEL AG VS888 FAUCET, 50 MICRON CARBON
<b>Aqua Flo Platinum QC Single Filters (c/w Mounting Bracket)</b>	
41407001-14	SEDQC1/4 SEDIMENT FILTER
41407002-14	CBQC1/4 CARBON BLOCK FILTER
41407006-14	CB50QC1/4 CARBON BLOCK FILTER - 50 MICRON
41407004-14	GACQC1/4 GAC CARBON FILTER
41407007-14	PHQC1/4 pH BOOSTER FILTER
41407005-14	UFQC1/4 ULTRA FILTRATION (HOLLOW FIBRE) MEMBRANE
41407009-14	CB1QC1/4 CARBON BLOCK FILTER - 1 MICRON
41407010-14	SCALEQC1/4 SCALELESS FILTER
<b>Aqua Flo Platinum Quick Change Replacement Filters</b>	
41407001	SEDIMENT FILTER
41407002	CARBON BLOCK FILTER
41407006	CARBON BLOCK FILTER -50 MICRON
41407004	GAC CARBON FILTER
41407007	pH BOOSTER FILTER
41407005	UF (HOLLOW FIBER) MEMBRANE
41407009	CARBON BLOCK - 1 MICRON
41407010	SCALELESS
41407003	RO MEMBRANE 50 GPD
41407008	RO MEMBRANE 75 GPD
41407011	ANNUAL REPLACEMENT FILTER KIT FOR QCRO (2 SEDIMENT / 3 CARBON BLOCK)

\*Note: Two Carbon filters required on most standard RO and UF system configurations



# AQUA FLO PLATINUM 1240 SERIES

Aqua Flo Platinum 1240’s advanced reverse osmosis drinking water systems are a natural and economical solution for providing your family with high quality drinking water. With a space-saving ultra slim profile, the system tucks neatly under your kitchen sink providing bottled water quality right from your very own tap.

All systems are backed by a two year limited warranty. The Smartap® water quality monitor found on the Push Button designated models is backed by a five year limited warranty.

**All models feature:**

- ➔ High quality reverse osmosis membrane

➔ 75 gallons per day

➔ Sediment pre-filtration

➔ Pre & Post Carbon block filtration

➔ 3/8” tubing from RO to tank and faucet for higher flow

➔ Chrome faucet
- ➔ Simple snap fit cover for ease of service

➔ New slim profile with integrated mounting bracket for easy, space saving installation

➔ Quick connect fittings

➔ Color coded tubing for ease of installation

➔ Plastic 3.0 gal Storage Tank



4VTFC75GPB



4VTFC75G

NOTE: All units ship with Plastic storage tank.



PART #	DESCRIPTION
<b>Aqua Flo Platinum 1240 Series Reverse Osmosis Drinking Water Systems</b>	
1240203-60	4VTFC75G
1240303-60	4VTFC75G - PB
1240202-60A	4VTFC50G, 50 MICRON CARBON BLOCK
<b>Aqua Flo Platinum 1240 Series Replacement Cartridges &amp; Membranes</b>	
41400076	SEDIMENT/CARBON ‘DUAL PURPOSE’ FILTER FOR 3 VESSEL MODELS ONLY, BLUE CAP
41400008	STRING WOUND SEDIMENT FILTER FOR 4 VESSEL MODELS ONLY, BLACK CAP
41400009	PRE-CARBON FOR 4 VESSEL & POST CARBON FOR 3 & 4 VESSEL MODELS, BLUE CAP
33001068	25 GPD TFC MEMBRANE, YELLOW CASE, BLACK TAPE, FOR 1230/1240 SERIES
33001033	50 GPD TFC MEMBRANE, YELLOW CASE, BLACK TAPE, FOR 1230/1240 SERIES
33001056	75 GPD TFC MEMBRANE, YELLOW CASE, BLACK TAPE, FOR 1230/1240 SERIES

# AQUA FLO PLATINUM 1240 SERIES

**Conditions for Use**

Source Water Supply Profile		Chemical Parameters	Max mg/L*
Community / Private	Chlorinated / Non-Chlorinated	Hardness (CaCO <sub>3</sub> )	<256 (<15 gpg)
Feed Water Pressure <sup>1</sup>	242 - 690 kPa (35-100 psig)	Iron (Fe)	<0.1
Temperature	4° - 38°C (40° - 100°F)	Manganese (Mn)	<0.05
pH Range	3.0 - 11.0	Hydrogen Sulfide (H <sub>2</sub> S)	0.00
Maximum TDS Level	2000 mg/L	Residual Chlorine (Cl <sub>2</sub> )	<2.0
Turbidity**	<1.0 NTU	** Nephelometric Turbidity Unit    * mg/L = ppm	
Maximum SDI***	<4.0	*** Silt Density Index. Value stated in SDI units.	

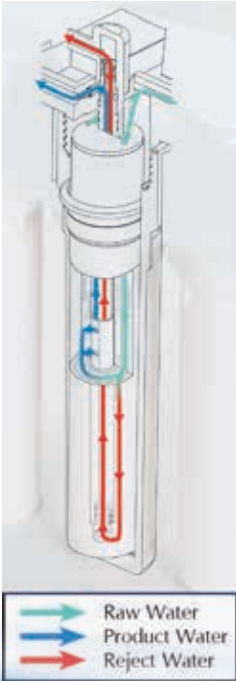
- Notes:
- 1 Pressure Regulator is recommended for feed water pressures exceeding 552 kPa (80 psig).
  - The performance of a reverse osmosis membrane is highly dependent upon pressure, temperature and TDS. The actual volume of product water and rejection percentage will vary with differences from the test conditions that membrane ratings are based upon.
  - These drinking water systems are not intended to be used for the treatment of water that is microbiologically unsafe or of unknown quality.
  - Storage tank capacity is dependent on pressure. Example: with a 7 psi precharge, the drawdown volume is 2.16 gal at 60 psi, 1.79 gal at 40 psi for the storage tank shown.
  - This product is manufactured under one or more of the following U.S. patents: 5,045,197; 5,057,212; 5,221,473

**Booster Pump ( R/O feed water line booster pump )**

Raises the water pressure and maintains it at the ideal level for the system to operate at maximum efficiency. Recommended for use on supplies with low pressure or high concentrations of total dissolved solids (TDS). The pump is self-priming and whisper-quiet. It runs on a 24VAC transformer (included) from a standard 120VAC electrical outlet.

System includes: Flexible mounting plate, quick connect fittings and a pressure shut-off switch.

Item #: 70030001  
Model: RO Booster with Pressure Switch and Transformer for 25 to 75 Gallon per day Systems



“RAISES THE WATER PRESSURE AND MAINTAINS IT AT THE IDEAL LEVEL ...”



# AQUA FLO 475 SERIES REVERSE OSMOSIS SYSTEMS



## Fast, Simple & Sanitary Maintenance!

Quick connect disposable cartridges and membrane make for easy ‘Do-It-Yourself’ maintenance. With built in auto water shut-offs there is no need to turn off the water supply prior to maintenance.

Because traditional systems require the disinfection of the permanent housing canisters and involve more direct human contact, maintenance can take as much as an hour and if not done properly can result in a contaminated system.

Disposable cartridges changes in seconds and reduce contamination risk!

PART #	DESCRIPTION
Aqua Flo 475 Series Drinking Water Systems	
20010023	475 PRO Series RO system
20010024	475 PRO Series RO system w/BP
20010025	475 PRO Series RO system (Air gap faucet)
20010026	475 PRO Series RO system w/BP (Air gap faucet)
Replacement Filters & RO Membrane	
65010086	SED-10 (Sediment Filter - 5 Micron)
65010088	COC-10 Coconut Carbon (Pre & Post 10 Micron)
70010014	RO Membrane 75 GPD TFC
65010087	CB-10 Carbon Block (Optional Filter - 10 Micron)
65010089	GAC-10 Granular Carbon (Optional Filter)

### Features:

- Four stage filtration: 5 micron sediment pre-filter, 10 micron coconut carbon pre & post filters, quick connect 75 GPD NSF Certified TFC membrane
- Bayonet-style 1/4 turn quick connect disposable cartridges with auto water shut-off
- Includes faucet and 3.0 gallon NSF Certified storage tank. (Designer faucets available)
- 3/8” tubing for high product flow rate from tank to faucet
- Quick connect fittings, inlet saddle and drain saddle, labelled tubing for easy installation
- Booster pump model with inlet solenoid raises water pressure to ideal level for maximum efficiency. Recommended on rural supplies with low pressure or high TDS
- Two year warranty (excluding consumable filter cartridges and RO membrane)
- Dimensions:  
13”w x 141/2”h x 41/2 d No Pump  
141/4”w x 161/2”h x 61/4”d Pump Model



*Change filters in seconds without turning off water! No tools required!*

### Booster Pump Model



Feed Water Guidelines	
Maximum TDS	2000 ppm
Hardness	<7gpg
Iron (Fe)	<0.2ppm
Manganese (Mn)	<0.05ppm
Hydrogen Sulfide	0.0ppm
Turbidity	<1.0NTU
Feed Water Pressure	40-100psi
Temperature	40-100°F
pH Range	3.0-11.0

# AQUA FLO UNDER SINK FILTRATION SYSTEMS

## 475QC Filters

The 475 Quick Change Filter Series offers 3, 2 & Single Stage options to provide solutions for a variety of water problems including sediment, rust, bad taste & odor.

### Features & Benefits:

- Low cost alternative to RO
- No reject water (100% water used)
- Leaves nutrients in water
- Ultra Filtration on system removes lead, VOC (pesticides, herbicides, chemicals), THM, chlorine, taste and odor and sediment down to 0.2 microns.
- Installation is quick and easy
- Quick change bayonet-style disposable cartridges are more sterile and can be changed in seconds
- Includes standard chrome faucet, inlet saddle valve, and 5ft ¼” tubing
- No storage tank required
- Dimensions:
  - 3 stage - 11.8”w x 14.3”h x 4.5”d
  - 2 stage - 6.3”w x 13.4”h x 3.9”d
  - 1 stage - 2.8”w x 12.4”h x 3.2”d



*Change filters in seconds without turning off water! No tools required!*

475 QC Series Filter Systems				
PART #	DESCRIPTION	Filter 1	Filter 2	Filter 3
20010201	475QC-3 TRIPLE STAGE ULTRA FILTER	SED	UF	COC
20010202	475QC-2 DOUBLE STAGE DUAL FILTER	SED	COC	
20010203	475QC-1C SINGLE STAGE COCONUT CARBON FILTER	COC		
20010204	475QC-1S SINGLE STAGE SEDIMENT FILTER	SED		
20010205	475QC-1G SINGLE STAGE GAC FILTER	GAC		
475 QC Series Replacement Filters				
PART #	DESCRIPTION	MICRON	FLOW RATE	CAPACITY (GALLONS)
65010086	SEDIMENT FILTER SED-10 BLUE (475 Q SERIES)	5	1 GPM	900
65010088	CARBON FILTER COC-10 PURPLE (475 Q SERIES)	10	1 GPM	1,500
65010089	CARBON FILTER GAC-10 YELLOW (475 Q SERIES)	-	0.7 GPM	1,500
65010093	ULTRA FILTER UF-10 BLACK (475 Q SERIES)	0.2	0.7 GPM	1,500



# AQUA FLO ECONOMY REVERSE OSMOSIS SYSTEM



PART #	DESCRIPTION
Aqua Flo Economy Drinking Water System	
20010030	4 stage 75 GPD RO system
20010031	4 stage 75 GDP RO system w Booster Pump
20010034	4 stage 75 GPD RO system (Air Gap)
20010035	4 stage 75 GDP RO system w Booster (AirGap)
Replacement Filters & RO Membrane	
Item #	Description
26081	5 Micron Pre-Filter - 10" Sediment
26273	Pre & Post Filter - 10" Carbon
92022	75 GPD TFC Membrane

Features:

- ➔ Heavy duty glass filled polypropylene construction provides double the strength, toughness & durability compared to most other RO's which are typically constructed with ABS.
- ➔ TFC 75 GPD reverse osmosis membrane provides up to 99% Total Dissolved Solids (TDS) rejection
- ➔ Pre-filters 10" five (5) micron Spun Polypropylene Sediment Cartridge and 10" Activated Carbon Cartridge
- ➔ Post filter: 10" Activated Carbon Cartridge
- ➔ Choose from air gap or non-air gap chrome plated faucets
- ➔ 3.0 Gallon NSF Certified plastic storage tank
- ➔ 3/8" outlet tubing for higher flows
- ➔ Automatic shut-off valve
- ➔ Exclusive serviceable check valve eliminates spring 'chatter' noise common in other RO's
- ➔ Quick connect fittings for ease of installation
- ➔ Powder coated bracket
- ➔ Dual purpose wrench for use on membrane cap and filter housing
- ➔ Dimensions:  
15.0"w x 14.5"h x 6.1"d No Pump  
15.0"w x 17.7"h x 6.9"d Pump Model

Booster Pump Model also includes:

- ➔ Pump mounted on RO to maintain constant water pressure to membrane
- ➔ Raises water pressure to ideal level for maximum efficiency
- ➔ Use on rural supplies with low pressure or highTDS
- ➔ Exclusive Auto Flush feature extends membrane life
- ➔ Self-priming and whisper quiet
- ➔ 24VAC transformer (included) from a standard 120VAC electrical outlet
- ➔ Flexible mounting plate, quick connect fittings and pressure shut-off switch

Feed Water Guidelines	
Maximum TDS	2000 ppm
Hardness	<7gpg
Iron (Fe)	<0.2ppm
Hydrogen Sulfide	0.0ppm
Turbidity	<1.0NTU
Feed Water Pressure	40-100psi
Temperature	40-100°F
pH Range	3.0-11.0
Note: Pretreatment suggested if conditions exceed parameters. Must be installed on potable water.	



#80010058 JG Undersink 3/8" connection angle stop / shut off  
#80010059 JG Undersink 1/4" connection angle stop / shut off

# REVERSE OSMOSIS STORAGE TANKS

Flexwave is a line of RO accumulators and storage tanks for residential and light commercial applications.

Flexwave tanks are made in the USA and built to comply with NSF/ANSI Std 61. All Flexwave tanks have a 5 year warranty.



# 70031000 Quick Connect Ball Valve Assembly reduces 1" tank connection to John Guest Quick Connect RO ball valve 1/4" to 3/8" tubing.

Larger sizes available. Please contact Customer Service for details.

Tank precharge 20 PSI

Maximum Pressure 125 PSI

Maximum working temperature, internal & external 120F

Materials of Construction

Tank top and bottom domes injection molded copolymer polypropylene. Shell extruded Polypropylene. Outer shell composite construction with fiberglass coated with epoxy resin. Base is injection molded high-impact ABS. 100% butyl diaphragm connected to a copolymer polypropylene bottom water chamber which allows for complete evacuation of the water chamber.

Dimensions & Capacities

Model	Item #	Total Tank Volume		Height		Diameter		Connection	Total Weight	
		Gallons	Litres	In	Cm	In	Cm	In	Lbs	Kilos
FWRO15	92372	15 Gal	56.8	25.6	65	16.5	42	1" NPT	19	8.6
FWRO22	92374	22 Gal	83.3	34.1	87	16.5	42	1" NPT	25	11.3

Quick Sizing Chart

Model	Item #	Total Tank Volume		Total Drawdown			
		Gallons	Litres	10/50		10/60	
				Gallons	Litres	Gallons	Litres
FWRO15	92372	15 Gal	56.8	9.3	35.2	10	37.9
FWRO22	92374	22 Gal	83.3	13.6	51.5	14.7	55.6



# DESIGNER FAUCETS

Designer RO faucets are a stylish addition to any kitchen. The NSF Certified lead-free ceramic disk faucets are available in many attractive finishes to coordinate with any decor. The faucets feature lead-free plastic water passages and lead-free brass gooseneck spouts that swivel 360 degrees for ease of use.



VS905

VS888

Color Sample Display  
#70040059



PART #	DESCRIPTION
87588	Faucet, VS888, Antique Brass
87589	Faucet, VS888, Antique Wine
87581	Faucet, VS888, Brushed Nickel
70040052	Faucet, VS888, Oil Rubbed Bronze
87580	Faucet, VS888, Polished Chrome
87585	Faucet, VS888, Satin Nickel
87584	FAUCET, VS888, BLACK
70040045	Faucet, VS905, Antique Brass
70040054	Faucet, VS905, Antique Wine
87583	Faucet, VS905, Brushed Nickel
87587	Faucet, VS905, Oil Rubbed Bronze
87582	Faucet, VS905, Polished Chrome
87586	Faucet, VS905, Satin Nickel
87591	Stand, Display
92710	Faucet Colour Sample Display

Specifications	VS888	VS905
Height	11.5" (292mm)	11.075" (281.32mm)
Spout Reach	5.7" (146mm)	4.75" (120mm)
Mounting Hole Diameter	1/2" (12.5mm)	1/2" (12.5mm)
Base Diameter	1.73" (44mm)	1.76" (44.8mm)
Connection	1/4" compression nut fitting	1/4" compression nut fitting
Operating Pressure	125 PSI/8.3BAR	125 PSI/8.3BAR
Flow Rate	1.0 gpm/3.785lpm @35 PSI/2.32BAR	1.0 gpm/3.785lpm @35 PSI/2.32BAR
Temp Rating	4°C/40°F to 70°C/158°F	4°C/40°F to 70°C/158°F
Warranty	2 Years	2 Years

\* All mounting hardware included. A 3/8" quick connect faucet adapter fitting (#80010017) can be purchased separately.

# RO BOOSTER PUMPS

## PAB8800 Series High Flow Booster Pump

### Key Operational Benefits:

- ➔ Boosts pressure 40 to 120 psi (adjustable)
- ➔ Used with membranes 50 to 120 GDP
- ➔ 15,000+ operating hours (estimated)
- ➔ Quiet – less than 52 DBA
- ➔ Can run dry without damage



### Features:

- ➔ Toughest, most durable pump on the market
- ➔ Adjustable max. outlet psi (regardless of feed pressure)
- ➔ Expels trapped air (no more air locks)
- ➔ Can be mounted with pump head up or horizontal
- ➔ More flow at extremely low inlet pressures
- ➔ New motor venting system to remove moisture
- ➔ EMI/RFI electronic noise suppression
- ➔ 100% final performance tested
- ➔ Available in 12VDC and 24VDC

## Aquatec 5800 Demand Pump

**OPERATION:** The 5800 pump can draw water from a holding tank and pressurize it, or boost the pressure from a low pressure source. They are designed to operate intermittently, but most versions can run continuously for several hour intervals. The pumps can be operated in demand mode controlled by an integral pressure switch, or in delivery mode controlled by an external power switching device. An integral bypass may be used to limit pressure.



**POWER:** 115V PSI: 60 GPM: 0.9

**MOUNTING:** A steel mounting base with four hollow rubber grommets is standard and included at no extra cost. The pump may be mounted in any position.

**FITTINGS:** The 5800 pump is offered with integral John Guest style quick connect fitting for 3/8" OD semi rigid tubing.

## KemFlo MD1050 Booster Pump

**DESCRIPTION:** 110/230 VAC, 75 GPD Booster pump 1.0 L.min, suitable for applications with 24VDC transformer

**SPECIFICATIONS:** Kemflo MD Series booster pump with 3/8" FNPT, made from NSF grade material high power flow rate and quality.

Meet ROHS standard.



Item #	Model
92325	KF - BOOSTER PUMP - MD1050
92317-1	AQUATEC MODEL PAB8800 BOOSTER PUMP
92341	AQUATEC MODEL PD5800 DEMAND PUMP
70030035	RO-75 BOOSTER PUMP



# CUSTOMIZED DRINKING WATER



## PURA ULTRAVIOLET DISINFECTION SYSTEMS



## PURA™ ULTRAVIOLET DISINFECTION SYSTEMS

PURA Ultraviolet Disinfection Systems offer a broad range of solutions with features and flow rates to satisfy most applications.

The PURA UVB, UV20 and UVBB models offer a combination of UV disinfection and filtration in convenient, bracket mounted, all-in-one packages.

The PURA Gen 5 & 6 Series offer more advanced, axial-flow stainless steel systems with advanced monitoring.

The AB UV offers an entry level stainless steel UV system for lower price points.

The UV1-EPCB and UV ADDON Series offer smaller solutions for lower flow rate applications.



These systems are for the supplemental treatment of disinfected drinking water which has been treated or other drinking water which has been tested and deemed acceptable for human consumption by the state or local health agency having jurisdiction. These systems are designed to reduce normally occurring nonpathogenic nuisance organisms and is not intended for the treatment of contaminated water.

### Conditions For Use - All Lines

Source Water Supply Profile		Chemical Parameters	Max mg/L
Feed Water Pressure <sup>1</sup>	20 – 75psig (138 – 517kPa)	Hardness (CaCO <sub>3</sub> )	< 120 (7 gpg)
Feed Water Temperature	38° – 105°F (3.3° – 40.5°C)	Iron (Fe)	< 0.3
pH Range	6.5 – 9.5	Manganese (Mn)	< 0.05
Total Dissolved Solids	< 1500 mg/L	<sup>1</sup> Water Pressure must not exceed 75 psig (517 kPa) or a pressure regulator must be installed.	
Total Suspended Solids	< 10 mg/L		
Turbidity	< 5 NTU		

The contaminants and other substances reduced by this water treatment device are not necessarily in your water. In addition, the presence of certain contaminants in your drinking water does not necessarily pose a health risk.

U.S. Patent #4,971,687

CARBON FILTER COMPONENTS  
UVB3 EPCB™/GC/SD



# PURA™ GEN 5 RESIDENTIAL SYSTEMS:

## GENESIS H2O: ULTRAVIOLET DISINFECTION SYSTEM

### A Security System For Your Water

UV technology provides additional security for your water supply. It is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium*, and *Giardia Lamblia* without the use of chemicals.

### Gen 5 Residential Systems

#### Features:

- ➔ Five models available (Gen5-3, 6 , 10, 15 & 20)
- ➔ Colour user interface with full diagnostics and warnings including QR codes
- ➔ “Future-proof” expandability port for future upgrades and options
- ➔ Designed & manufactured to ASME pressure vessel standards
- ➔ Axial flow, 316L stainless steel reactor, polished reactors with integral sensor port to allow for sensor upgradeability in the future (comes standard with visual glow plug)
- ➔ Flow rates stated at 95% UVT at a dose of 30mJ/cm<sup>2</sup>
- ➔ User friendly bayonet style lamp connector (Quick ¼ turn removal. No extra tools required.)
- ➔ Reliable, industry proven low pressure (LP) coated UV lamps with ceramic bases for durability and a 9000 hour life (1 year)
- ➔ Constant current electronic controller (one controller for all systems) in a splash-proof case
- ➔ Warranty (refer to Owner’s Manual for complete details including conditions & exclusions):
  - Reactor Chamber – Ten (10) Year Limited
  - Electronics – Three (3) Year Limited
  - UV Lamps – One (1) Year Limited
  - Quartz Sleeves – One (1) Year Limited



PURA GEN 5	
Item #	Model
40030001	UV STERILIZER PURA GEN 5-3 (3 gpm)
40030002	UV STERILIZER PURA GEN 5-6 (6 gpm)
40030003	UV STERILIZER PURA GEN 5-10 (10 gpm)
40030004	UV STERILIZER PURA GEN 5-15 (15 gpm)
40030005	UV STERILIZER PURA GEN 5-20 (20 gpm)

Parameter	Level
Hardness	< 7 gpg (120 mg/L)
Iron (Fe)	< 0.3ppm (mg/L)
Manganese (Mn)	< 0.05ppm (mg/L)
Tannins	< 0.1ppm (mg/L)
Turbidity	< 1 NTU
Transmittance (UVT)	> 75%

PURA	GENESIS H2O EQUIPMENT SPECIFICATIONS				
	GENESIS-5, Residential UV systems				
MODEL	GEN5-3	GEN5-6	GEN5-10	GEN5-15	GEN5-20
Flow Rate (@ 16 mJ/cm² @ 95% UVT)	6 GPM 23 lpm 1.4 m³/hr.	11 GPM 41 lpm 2.5 m³/hr.	20 GPM¹ 77 lpm¹ 4.6 m³/hr.¹	30 GPM² 113.6 lpm² 6.8 m³/hr.²	39.2 GPM² 150 lpm² 8.9 m³/hr.²
Flow Rate (@ 30 mJ/cm² @ 95% UVT)	3 GPM 11.4 lpm 0.7 m³/hr.	6 GPM 22.7 lpm 1.4 m³/hr.	11 GPM 41 lpm 2.5 m³/hr.	15 GPM 56.8 lpm 3.4 m³/hr.	21 GPM 79 lpm 4.8 m³/hr.
Flow Rate (@ 40 mJ/cm² @ 95% UVT)	2.4 GPM 9.1 lpm 0.5 m³/hr.	4.4 GPM 17 lpm 1.0 m³/hr.	8.3 GPM 31 lpm 1.9 m³/hr.	12 GPM 45.4 lpm 2.7 m³/hr.	16 GPM 59 lpm 3.6 m³/hr.
Port Size	½" MNPT	½" MNPT	½" MNPT	1" MNPT	1" MNPT
Electrical	90-265V/50-60Hz.				
Plug Type	North American, NEMA 5-15, 3-wire for all 110V				
Lamp Watts	15	22	39	50	42
Power (watts)	20	30	49	62	51
Replacement Lamp	RL-290	RL-470	RL-820	RL-999	RL-850
Replacement Sleeve	RQ-290	RQ-470	RQ-820	RQ-999	RQ-850
Reactor Dimensions	2.5 x 14.3" (6.4 x 36.4 cm)	2.5 x 21.3" (6.4 x 54.2 cm)	2.5 x 35.2" (6.4 x 89.5 cm)	2.5 x 40.0" (6.4 x 101.6 cm)	3.5 x 36.1" (8.9 x 91.7 cm)
Chamber Material	Polished 304 Stainless Steel, A249 Pressure Rated Tubing				
Controller Dimensions	6.8 x 3.6 x 3" (171.5 x 92.1 x 76.2 mm)				
Operating Pressure	0.7-10.3 bar (10-150 psi)				
Operating Water Temperature	2-40° C (36-104° F)				
UV Monitor Port (upgradeability)	No	Yes			
Solenoid Output	Yes, but requires optional solenoid module				
4-20 mA Output	Yes, but requires optional 4-20 mA module				
Lamp Change Reminder (audible & visual)	Yes				
Lamp-Out Indicator (audible & visual)	Yes				
Shipping Weight	3.3 kg. (7.3 lbs.) 3 kg. (7 lbs.) cubed	4.2 kg. (9.3 lbs.) 5 kg. (9 lbs.) cubed	6.8 kg. (15.0 lbs.) 7 kg. (15 lbs.) cubed	8.0 kg. (17.6 lbs.) 8 kg. (17 lbs.) cubed	7.5 kg. (16.5 lbs.) 10 kg. (22 lbs.) cubed
Note: 1. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to <b>13.6 gpm</b> (50 lpm) (3.1 m³/hr.) for ¾" port					
2. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to <b>22.1 gpm</b> (84 lpm) (5.0 m³/hr.) for 1" port					

\* See price list for specific item numbers

### Options



**UV Sensor Module**  
Allows the 254nm UV wavelength to be measured and displayed via the GEN-H5 controller. The sensor plugs directly into the controller and is mounted in the sensor port located on all GenH6 units.



**Solenoid Module**  
Used to power a remote normally closed solenoid valve (not included). Solenoid valve will close on lamp failure or when low UV conditions are detected by the sensor. Available in 110V MODSOL1 (Item # 40040006)

REPLACEMENT PARTS			
System	Lamps	Sleeves	Controller
Pura Gen 6-6	RL-470 #40040014	RQ-470 #40040043	RC-B56.01 #40040066
Pura Gen 6-10	RL-820 #40040015	RQ-820 #40040045	RC-B56.01 #40040066
Pura Gen 6-15	RL-999 #40040017	RQ-999 #40040048	RC-B56.01 #40040066
Pura Gen 6-20	RL-850 #40040016	RQ-850 #40040046	RC-B56.01 #40040066

### Sample Screens



NSF Certified Models Available. Contact Customer Service For Details.



GEN 6 RESIDENTIAL SYSTEMS

A Security System For Your Water

UV technology provides additional security for your water supply. It is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium*, and *Giardia Lamblia* without the use of chemicals.

Gen 6 Residential Systems

Features:

- ➔ Four models available (Gen 6-6 , 10, 15 & 20)
- ➔ True 254nm Teflon® based UV sensor continuously measures UV output and visually displays output via controller
- ➔ Colour user interface with full diagnostics and warnings including QR codes
- ➔ “Future-proof” expandability port for future upgrades and options
- ➔ Axial flow, 304 stainless reactors
- ➔ Designed & manufactured to ASME pressure vessel standards
- ➔ Flow rates stated at 95% UVT at a dose of 30mJ/cm2
- ➔ User friendly bayonet style lamp connector (Quick ¼ turn removal. No extra tools required.)
- ➔ True gland seal retaining nut with positive stop
- ➔ Reliable, industry proven low pressure (LP) coated UV lamps with ceramic bases for durability and a 9000 hour life (1 year)
- ➔ Constant current electronic controller (one controller for all systems) in a splash-proof case
- ➔ Warranty (refer to Owner’s Manual for complete details including conditions & exclusions):
  - Reactor Chamber - Ten (10) Year Limited
  - Electronics – Three (3) Year Limited
  - UV Lamps – One (1) Year Limited
  - Quartz Sleeves – One (1) Year Limited
  - UV Sensors – One (1) Year Limited



PURA GEN 6

Item #	Model
40030006	UV STERILIZER PURA GEN 6-6 (6 gpm)
40030007	UV STERILIZER PURA GEN 6-10 (10 gpm)
40030008	UV STERILIZER PURA GEN 6-15 (15 gpm)
40030009	UV STERILIZER PURA GEN 6-20 (20 gpm)

Parameter	Level
Hardness	< 7 gpg (120 mg/L)
Iron (Fe)	< 0.3ppm (mg/L)
Manganese (Mn)	< 0.05ppm (mg/L)
Tannins	< 0.1ppm (mg/L)
Turbidity	< 1 NTU
Transmittance (UVT)	> 75%

PURA	GENESIS H2O EQUIPMENT SPECIFICATIONS			
	GENESIS-6, Residential monitored UV systems			
MODEL	GEN6-6	GEN6-10	GEN6-15	GEN6-20
UV Flow Rate (@ 16 mJ/cm <sup>2</sup> @ 95% UVT)	11 GPM	20 GPM <sup>1</sup>	30 GPM <sup>2</sup>	39.2 GPM <sup>2</sup>
	41 lpm	77 lpm <sup>1</sup>	113.6 lpm <sup>2</sup>	150 lpm <sup>2</sup>
	2.5 m <sup>3</sup> /hr.	4.6 m <sup>3</sup> /hr. <sup>1</sup>	6.8 m <sup>3</sup> /hr. <sup>2</sup>	8.9 m <sup>3</sup> /hr. <sup>2</sup>
UV Flow Rate (@ 30 mJ/cm <sup>2</sup> @ 95% UVT)	6 GPM	11 GPM	15 GPM	21 GPM
	22.7 lpm	41 lpm	56.8 lpm	79 lpm
	1.4 m <sup>3</sup> /hr.	2.5 m <sup>3</sup> /hr.	3.4 m <sup>3</sup> /hr.	4.8 m <sup>3</sup> /hr.
UV Flow Rate (@ 40 mJ/cm <sup>2</sup> @ 95% UVT)	4.4 GPM	8.3 GPM	12 GPM	16 GPM
	17 lpm	31 lpm	45.4 lpm	59 lpm
	1.0 m <sup>3</sup> /hr.	1.9 m <sup>3</sup> /hr.	2.7 m <sup>3</sup> /hr.	3.6 m <sup>3</sup> /hr.
Port Size	¾" MNPT	¾" MNPT	1" MNPT	1" MNPT
Electrical	90-265V/50-60Hz.			
Plug Type	North American, NEMA 5-15, 3-wire for all 110V			
Lamp Watts	22	39	50	42
Power (watts)	30	49	62	51
Replacement Lamp	RL-470	RL-820	RL-999	RL-850
Replacement Sleeve	RQ-470	RQ-820	RQ-999	RQ-850
Reactor Dimensions	2.5 x 21.3"	2.5 x 35.2"	2.5 x 40.0"	3.5 x 36.1"
	(6.4 x 54.2 cm)	(6.4 x 89.5 cm)	(6.4 x 101.6 cm)	(8.9 x 91.7 cm)
Chamber Material	Polished 304 Stainless Steel, A249 Pressure Rated Tubing			
Controller Dimensions	6.8 x 3.6 x 3" (171.5 x 92.1 x 76.2 mm)			
Operating Pressure	0.7-10.3 bar (10-150 psi)			
Operating Water Temperature	2-40° C (36-104° F)			
UV Intensity Monitor	Yes			
Solenoid Output	Yes, but requires optional solenoid module			
4-20 mA Output	Yes, but requires optional 4-20 mA module			
Lamp Change Reminder (audible & visual)	Yes			
Lamp-Out Indicator (audible & visual)	Yes			
Shipping Weight	4.2 kg. (9.3 lbs.)	6.8 kg. (15.0 lbs.)	8.0 kg. (17.6 lbs.)	7.5 kg. (16.5 lbs.)
	5 kg. (9 lbs.) cubed	7 kg. (15 lbs.) cubed	8 kg. (17 lbs.) cubed	10 kg. (22 lbs.) cubed
Note: 1. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to 13.6 gpm (50 lpm) (3.1 m <sup>3</sup> /hr.) for ¾" port				
2. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to 22.1 gpm (84 lpm) (5.0 m <sup>3</sup> /hr.) for 1" port				

\* See price list for specific item numbers

Options



**UV Sensor Module**  
Allows the 254nm UV wavelength to be measured and displayed via the GEN-H5 controller. The sensor plugs directly into the controller and is mounted in the sensor port located on all GenH6 units.



**Solenoid Module**  
Used to power a remote normally closed solenoid valve (not included). Solenoid valve will close on lamp failure or when low UV conditions are detected by the sensor. Available in 110V MODSOL1 (Item # 40040006)

REPLACEMENT PARTS

System	Lamps	Sleeves	Controller
Pura Gen 6-6	RL-470 #40040014	RQ-470 #40040043	RC-B56.01 #40040066
Pura Gen 6-10	RL-820 #40040015	RQ-820 #40040045	RC-B56.01 #40040066
Pura Gen 6-15	RL-999 #40040017	RQ-999 #40040048	RC-B56.01 #40040066
Pura Gen 6-20	RL-850 #40040016	RQ-850 #40040046	RC-B56.01 #40040066

Sample Screens



NSF Certified Models Available. Contact Customer Service For Details.



# GEN H5 RESIDENTIAL CROSSOVER HIGH FLOW SYSTEMS

## A Security System For Your Water

UV technology provides additional security for your water supply. It is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium*, and *Giardia Lamblia* without the use of chemicals.

## Gen H5 Residential Crossover High Flow Systems

### Features:

- Five models available (Gen H5-5, 10, 15, 25 & 40)
- Colour user interface with full diagnostics and warnings including QR codes
- “Future-proof” expandability port for future upgrades and options
- Axial flow, 316L stainless steel reactor, polished reactors with integral sensor port to allow for sensor upgradeability in the future (comes standard with visual glow plug)
- Designed & manufactured to ASME pressure vessel standards
- Flow rates stated at 95% UVT at a dose of 30mJ/cm2
- User friendly bayonet style lamp connector (Quick ¼ turn removal. No extra tools required.)
- True gland seal retaining nut with positive stop
- Reliable, industry proven low pressure, high-output (LP-HO) coated UV lamps with ceramic bases for durability and a 10,000 hour life
- Universal input, constant current electronic controller (one controller for all systems) in a splash-proof case

- Warranty (refer to Owner’s Manual for complete details including conditions & exclusions):

- Reactor Chamber – Ten (10) Year Limited
- Electronics – Three (3) Year Limited
- UV Lamps – One (1) Year Limited
- Quartz Sleeves – One (1) Year Limited



### PURA GEN H5

Item #	Model
40030010	UV STERILIZER PURA GEN H5-5 (5 gpm)
40030011	UV STERILIZER PURA GEN H5-10 (10 gpm)
40030012	UV STERILIZER PURA GEN H5-15 (15 gpm)
40030013	UV STERILIZER PURA GEN H5-25 (25 gpm)
40030014	UV STERILIZER PURA GEN H5-40 (40 gpm)

Parameter	Level
Hardness	< 7 gpg (120 mg/L)
Iron (Fe)	< 0.3ppm (mg/L)
Manganese (Mn)	< 0.05ppm (mg/L)
Tannins	< 0.1ppm (mg/L)
Turbidity	< 1 NTU
Transmittance (UVT)	> 75%



GENESIS H2O EQUIPMENT SPECIFICATIONS					
GENH-5, Residential Crossover UV systems, non-monitored					
MODEL	GENH5-5	GENH5-10	GENH5-15	GENH5-25	GENH5-40
Flow Rate (Industry Standard)	4 GPM 15.1 lpm 0.9 m <sup>3</sup> /hr.	10 GPM 37.9 lpm 2.3 m <sup>3</sup> /hr.	14 GPM 53 lpm 3.2 m <sup>3</sup> /hr.	25 GPM <sup>2</sup> 95 lpm 5.7 m <sup>3</sup> /hr.	40 GPM 151 lpm 9.1 m <sup>3</sup> /hr.
Alternate flow @ 16 mJ/cm <sup>2</sup> (US Public Health)	8 GPM 30.3 lpm 1.8 m <sup>3</sup> /hr.	19 GPM <sup>3</sup> 71.9 lpm 4.3 m <sup>3</sup> /hr.	27 GPM <sup>3</sup> 102.2 lpm 6.1 m <sup>3</sup> /hr.	47 GPM <sup>2</sup> 178 lpm 10.7 m <sup>3</sup> /hr.	78 GPM <sup>3</sup> 295 lpm 17.7 m <sup>3</sup> /hr.
Alternate flow @ 40 mJ/cm <sup>2</sup> (NSF/EPA)	3 GPM 11.4 lpm 0.7 m <sup>3</sup> /hr.	7 GPM 26.5 lpm 1.6 m <sup>3</sup> /hr.	11 GPM 41 lpm 2.5 m <sup>3</sup> /hr.	19 GPM 72 lpm 4.3 m <sup>3</sup> /hr.	31 GPM 117 lpm 7 m <sup>3</sup> /hr.
Port Size	½" MNPT	¾" MNPT	1" MNPT	1" MNPT	1½" MNPT
Electrical	90-265V/50-60Hz. (IEC power cords required)				
Power Plug	North American, NEMA 5-15, 3-wire for all 110V				
Lamp Watts	18	34	45	67	101
Power (watts)	20 (19 @ 230V.)	38 (36 @ 230V.)	57 (48 @ 230V.)	73 (72 @ 230V.)	115 (108 @ 230V.)
Replacement Lamp	RL-210HO	RL-330HO	RL-420HO	RL-600HO	RL-950HO
Replacement Sleeve	RQ-210	RQ-330	RQ-420	RQ-600	RQ-950
Reactor Dimensions	3.5 x 11.7" (8.9 x 29.8 cm)	3.5 x 16.5" (8.9 x 41.8 cm)	3.5 x 20.0" (8.9 x 50.8 cm)	3.5 x 26.9" (8.9 x 68.3 cm)	3.5 x 40.7" (8.9 x 103.4 cm)
Chamber Material	316L Stainless Steel, A249 Pressure Rated Tubing, Polished & Passivated				
Controller Dimension	8.6 x 4.2 x 3.5" (217.4 x 107.5 x 88.7 mm)				
Operating Pressure	0.7-10.3 bar (10-150 psi)				
Optimum Water Temperature	2-40° C (36-104° F)				
UV Monitor Port (upgradeability)	Yes, includes visual glow plug				
Solenoid Output	Yes, but requires optional solenoid module				
4-20 mA Output	Yes, but requires optional 4-20 mA module				
Lamp Change Reminder (audible & visual)	Yes				
Lamp-Out Indicator (audible & visual)	Yes				
Shipping Weight	4.5 kg. (9.9 lbs.) 4 kg. (8 lbs.) cubed	5.4 kg. (11.9 lbs.) 5 kg. (11 lbs.) cubed	6.0 kg. (13.2 lbs.) 6 kg. (13 lbs.) cubed	7.2 kg. (15.9 lbs.) 8 kg. (16 lbs.) cubed	9.7 kg. (21.4 lbs.) 11 kg. (24 lbs.) cubed
Note: 1. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to 13.6 gpm (50 lpm) (3.1 m <sup>3</sup> /hr.) for 3/4" port 2. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to 22.1 gpm (84 lpm) (5.0 m <sup>3</sup> /hr.) for 1" port 3. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to 52 gpm (197 lpm) (11.8 m <sup>3</sup> /hr.) for 1 ½" port					

\* See price list for specific item numbers

### Options



**UV Sensor Module**  
Allows the 254nm UV wavelength to be measured and displayed via the GEN-H5 controller. The sensor plugs directly into the controller and is mounted in the sensor port located on all GenH6 units.



**Solenoid Module**  
Used to power a remote normally closed solenoid valve (not included). Solenoid valve will close on lamp failure or when low UV conditions are detected by the sensor. Available in 110V MODSOL1 (Item # 40040006)

### REPLACEMENT PARTS

System	Lamps	Sleeves	Controller
Pura Gen H5-5	RL-210HO #40040018	RQ-210 #40040039	RCHO-B56.12 #40040074
Pura Gen H5-10	RL-330HO #40040019	RQ-330 #40040041	RCHO-B56.12 #40040074
Pura Gen H5-15	RL-420HO #40040020	RQ-420 #40040042	RCHO-B56.12 #40040074
Pura Gen H5-25	RL-600HO #40040021	RQ-600 #40040044	RCHO-B56.12 #40040074
Pura Gen H5-40	RL-950HO #40040022	RQ-950 #40040047	RCHO-B56.12 #40040074

### Sample Screens



NSF Certified Models Available. Contact Customer Service For Details.



# GEN H6 RESIDENTIAL CROSSOVER HIGH FLOW SYSTEMS

## A Security System For Your Water

UV technology provides additional security for your water supply. It is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium*, and *Giardia Lamblia* without the use of chemicals.

## Gen H6 Residential Crossover High Flow Systems

### Features:

- ➔ Five models available (Gen H6-5, 10, 15, 25 & 40)
- ➔ True 254nm Teflon® based UV sensor continuously measures UV output via the controller
- ➔ Colour user interface with full diagnostics and warnings including QR codes
- ➔ “Future-proof” expandability port for future upgrades and options
- ➔ Axial flow, 316L stainless steel reactor
- ➔ Designed & manufactured to ASME pressure vessel standards
- ➔ Flow rates stated at 95% UVT at a dose of 30mJ/cm2
- ➔ User friendly bayonet style lamp connector (Quick ¼ turn removal. No extra tools required.)
- ➔ True gland seal retaining nut with positive stop
- ➔ Reliable, industry proven low pressure, high-output (LP-HO) coated UV lamps with ceramic bases for durability and a 10,000 hour life
- ➔ Universal input, constant current electronic controller (one controller for all systems) in a splash-proof case
- ➔ Warranty (refer to Owner’s Manual for complete details including conditions & exclusions):
  - Reactor Chamber – Ten (10) Year Limited
  - Electronics – Three (3) Year Limited
  - UV Lamps – One (1) Year Limited
  - Quartz Sleeves – One (1) Year Limited
  - UV Sensors – One (1) Year Limited



### PURA GEN H6

Item #	Model
40030015	UV STERILIZER PURA GEN H6-5 (5 gpm)
40030016	UV STERILIZER PURA GEN H6-10 (10 gpm)
40030017	UV STERILIZER PURA GEN H6-15 (15 gpm)
40030018	UV STERILIZER PURA GEN H6-25 (25 gpm)
40030019	UV STERILIZER PURA GEN H6-40 (40 gpm)

Parameter	Level
Hardness	< 7 gpg (120 mg/L)
Iron (Fe)	< 0.3ppm (mg/L)
Manganese (Mn)	< 0.05ppm (mg/L)
Tannins	< 0.1ppm (mg/L)
Turbidity	< 1 NTU
Transmittance (UVT)	> 75%



PURA		GENESIS H2O EQUIPMENT SPECIFICATIONS				
		GENH-6, Residential Crossover monitored UV systems				
MODEL	GENH6-5	GENH6-10	GENH6-15	GENH6-25	GENH6-40	
Flow Rate (Industry Standard)	4 GPM 15.1 lpm 0.9 m <sup>3</sup> /hr.	10 GPM 37.9 lpm 2.3 m <sup>3</sup> /hr.	14 GPM 53 lpm 3.2 m <sup>3</sup> /hr.	25 GPM <sup>2</sup> 95 lpm 5.7 m <sup>3</sup> /hr.	40 GPM 151 lpm 9.1 m <sup>3</sup> /hr.	
	Alternate flow @ 16 mJ/cm <sup>2</sup> (US Public Health)	8 GPM 30.3 lpm 1.8 m <sup>3</sup> /hr.	19 GPM <sup>1</sup> 71.9 lpm 4.3 m <sup>3</sup> /hr.	27 GPM <sup>2</sup> 102.2 lpm 6.1 m <sup>3</sup> /hr.	47 GPM <sup>2</sup> 178 lpm 10.7 m <sup>3</sup> /hr.	78 GPM <sup>3</sup> 295 lpm 17.7 m <sup>3</sup> /hr.
		Alternate flow @ 40 mJ/cm <sup>2</sup> (NSF/EPA)	3 GPM 11.4 lpm 0.7 m <sup>3</sup> /hr.	7 GPM 26.5 lpm 1.6 m <sup>3</sup> /hr.	11 GPM 41 lpm 2.5 m <sup>3</sup> /hr.	19 GPM 72 lpm 4.3 m <sup>3</sup> /hr.
Port Size	½" MNPT	¾" MNPT	1" MNPT	1" MNPT	1½" MNPT	
Electrical	90-265V/50-60Hz. (IEC power cords required)					
Power Plug	North American, NEMA 5-15, 3-wire for all 110V					
Lamp Watts	18	34	45	67	101	
Power (watts)	20 (19 @ 230V.)	38 (36 @ 230V.)	57 (48 @ 230V.)	73 (72 @ 230V.)	115 (108 @ 230V.)	
Replacement Lamp	RL-210HO	RL-330HO	RL-420HO	RL-600HO	RL-950HO	
Replacement Sleeve	RQ-210	RQ-330	RQ-420	RQ-600	RQ-950	
Reactor Dimensions	3.5 x 11.7" (8.9 x 29.8 cm)	3.5 x 16.5" (8.9 x 41.8 cm)	3.5 x 20.0" (8.9 x 50.8 cm)	3.5 x 26.9" (8.9 x 68.3 cm)	3.5 x 40.7" (8.9 x 103.4 cm)	
Chamber Material	316L Stainless Steel, A249 Pressure Rated Tubing, Polished & Passivated					
Controller Dimension	8.6 x 4.2 x 3.5" (217.4 x 107.5 x 88.7 mm)					
Operating Pressure	0.7-10.3 bar (10-150 psi)					
Optimum Water Temperature	2-40° C (36-104° F)					
UV Intensity Monitor	Yes					
Solenoid Output	Yes, but requires optional solenoid module					
4-20 mA Output	Yes, but requires optional 4-20 mA module					
Lamp Change Reminder (audible & visual)	Yes					
Lamp-Out Indicator (audible & visual)	Yes					
Shipping Weight	4.5 kg. (9.9 lbs.) 4 kg. (8 lbs.) cubed	5.4 kg. (11.9 lbs.) 5 kg. (11 lbs.) cubed	6.0 kg. (13.2 lbs.) 6 kg. (13 lbs.) cubed	7.2 kg. (15.9 lbs.) 8 kg. (16 lbs.) cubed	9.7 kg. (21.4 lbs.) 11 kg. (24 lbs.) cubed	
Note: 1. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to <b>13.6 gpm</b> (50 lpm) (3.1 m <sup>3</sup> /hr.) for ¾" port						
2. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to <b>22.1 gpm</b> (84 lpm) (5.0 m <sup>3</sup> /hr.) for 1" port						
3. based on flow velocity of 8.2 ft/sec (2.5 m/sec.), flow rate limited to <b>52 gpm</b> (197 lpm) (11.8 m <sup>3</sup> /hr.) for 1 ½" port						

\* See price list for specific item numbers

### Sample Screens



NSF Certified Models Available. Contact Customer Service For Details.

### Options



**UV Sensor Module**  
Allows the 254nm UV wavelength to be measured and displayed via the GEN-H5 controller. The sensor plugs directly into the controller and is mounted in the sensor port located on all GenH6 units.



**Solenoid Module**  
Used to power a remote normally closed solenoid valve (not included). Solenoid valve will close on lamp failure or when low UV conditions are detected by the sensor. Available in 110V MODSOL1 (Item # 40040006)

### REPLACEMENT PARTS

System	Lamps	Sleeves	Controller
Pura Gen H6-5	RL-210HO #40040018	RQ-210 #40040039	RCHO-B56.12 #40040074
Pura Gen H6-10	RL-330HO #40040019	RQ-330 #40040041	RCHO-B56.12 #40040074
Pura Gen H6-15	RL-420HO #40040020	RQ-420 #40040042	RCHO-B56.12 #40040074
Pura Gen H6-25	RL-600HO #40040021	RQ-600 #40040044	RCHO-B56.12 #40040074
Pura Gen H6-40	RL-950HO #40040022	RQ-950 #40040047	RCHO-B56.12 #40040074



# GEN 5 UV/FILTER RACK SYSTEM

## A Combination Water System For Your Entire Home or Cottage

Combining ultraviolet disinfection (UV) with whole-house filtration provides your home or cottage with clean, great-tasting water that you can rely on. UV is proven to control microbiological (bacteria & virus) issues in water including *E.coli*, *Cryptosporidium*, and *Giardia Lamblia* without the use of chemicals. Combining UV disinfection with whole-house sediment and/or carbon pre-treatment filters improves UV performance and the taste, smell and clarity of your water.

### Features:


- ➔ Four models provide a range of flow rate and filter combination options suitable for your specific needs
- ➔ Models for 8 & 13 gpm flow rates
- ➔ All systems include 5 micron sediment removal pretreatment required for proper UV performance
- ➔ Optional ‘high-flow’ carbon filters to treat bad tastes and odors
- ➔ Pressure relief, high-flow polypropylene filter housings
- ➔ Colour user interface with full diagnostics and warnings including QR codes
- ➔ “Future-proof” expandability port for future upgrades and options
- ➔ Designed & manufactured to ASME pressure vessel standards
- ➔ Axial flow, 316L stainless steel polished reactors designed & manufactured to ASME pressure vessel standards
- ➔ Flow rates stated at 95% UVT at a dose of 30mJ/cm2
- ➔ User friendly bayonet style lamp connector (Quick ¼ turn removal. No extra tools required.)
- ➔ Reliable, industry proven low pressure (LP) coated UV lamps with ceramic bases for durability and a 9000 hour life (1 year)
- ➔ Constant current electronic controller in a splash-proof case



GEN 5 UV / FILTER RACK SYSTEM

Item #	Model
40030050	UV STERILIZER / FILTER RACK SYSTEM PURA GEN 5 - 8R1
40030051	UV STERILIZER / FILTER RACK SYSTEM PURA GEN 5 - 8R12
40030052	UV STERILIZER / FILTER RACK SYSTEM PURA GEN H5 - 13R2
40030053	UV STERILIZER / FILTER RACK SYSTEM PURA GEN H5 - 13R22

Parameter	Level
Hardness	< 7 gpg (120 mg/L)
Iron (Fe)	< 0.3ppm (mg/L)
Manganese (Mn)	< 0.05ppm (mg/L)
Tannins	< 0.1ppm (mg/L)
Turbidity	< 1 NTU
Transmittance (UVT)	> 75%

	GENESIS H2O EQUIPMENT SPECIFICATIONS			
	GENESIS-5 Rack Mount Whole-House Combination Systems			
MODEL	GEN5-8R1	GEN5-8R12	GENH5-13R2	GENH5-13R22
Flow Rate (@ 30 ml/cm <sup>2</sup> @ 95% UVT)	8.0 GPM 30.3 lpm 1.8 m <sup>3</sup> /hr.	8.0 GPM 30.3 lpm 1.8 m <sup>3</sup> /hr.	13.0 GPM 49.2 lpm 2.95 m <sup>3</sup> /hr.	13.0 GPM 49.2 lpm 2.95 m <sup>3</sup> /hr.
1st Filter Housing	10" 5 Micron Sediment	10" 5 Micron Sediment	20" 5 Micron Sediment	20" 5 Micron Sediment
2nd Filter Housing	N/A	20" High Capacity Carbon	N/A	20" High Capacity Carbon
Port Size	1" MNPT			
Electrical	90-265V/50-60Hz.			
Plug Type	North American, NEMA 5-15, 3-wire for all 110V			
Lamp Watts	20 (standard-output lamp)		45 (high-output lamp)	
Power (watts)	23	23	57	57
Max Current (amps)	1			
Chamber Dimensions	3.5 x 20.0" (8.9 x 50.8 cm)			
Chamber Material	Polished 316 Stainless Steel, A249 Pressure Rated Tubing			
Controller Dimensions	6.8 x 3.6 x 3" (17.2 x 9.2 x 7.6 cm)		8.6 x 4.2 x 3.5" (21.7 x 10.8 x 8.9 cm)	
Operating Pressure	0.7-10.3 bar (10-150 psi)			
Operating Water Temperature	2-40° C (36-104° F)			
UV Monitor	Optional (requires additional UV Sensor Module)			
Solenoid Output	Yes, but requires optional solenoid module			
Dry Contacts	Yes, but requires optional remote alarm module			
4-20 mA Output	Yes, but requires optional 4-20 mA module			
Lamp Change Reminder (audible & visual)	Yes			
Lamp-Out Indicator (audible & visual)	Yes			
Shipping Weight	18.5 Lbs (8.4 Kg)	31.5 Lbs (14.3 Kg)	31.5 Lbs (14.3 Kg)	34.2 Lbs (15.5 Kg)

### Options



**UV Sensor Module**  
Allows the 254nm UV wavelength to be measured and displayed via the GEN-H6 controller. The sensor plugs directly into the controller and is mounted in the sensor port located on all GenH6 units.



**Solenoid Module**  
Used to power a remote normally closed solenoid valve (not included). Solenoid valve will close on lamp failure or when low UV conditions are detected by the sensor. Available in 110V MODSOL1 (Item # 40040006)



**4-20mA Module** Used for signal transfer to a remote device such as a data logger or computer)



**Remote Alarm (Dry Contact) Module** Used for signal transfer to a remote alarm or dry contacts.

### Sample Screens



NSF Certified Models Available. Contact Customer Service For Details.



# PURA™ ABUV SERIES ULTRAVIOLET DISINFECTION SYSTEMS

## PURA ABUV Series™

The PURA® ABUV Series is an entry level. Ultraviolet Water Disinfection System. The system will provide you with disinfected drinking water for years to come. These systems have been designed with high quality construction and innovative features.

Disinfection of water using ultraviolet light at a wave-length at 254nm is a chemical free way of destroying the DNA of microorganisms rendering them unable to replicate or cause infection. Installation of the system is straight forward and simple. Maintenance includes changing the lamp once a year and cleaning the quartz sleeve periodically.

The PURA® ABUV models are tested and certified by NSF against Standard 55 for Class B disinfection.

### Features:

- ➔ Lamp Failure Visual and Audible Alarm
- ➔ Lamp Change Reminder
- ➔ Countdown Lamp Timer
- ➔ 115V / 60Hz North American 3-Prong Grounded Plug




### Conditions for Use

Depending on the chemistry of the water to be dis-

infected by a PURA® Ultraviolet Water Disinfection System, additional pretreatment may be necessary. The following table outlines the basic parameters that need to be tested and treated should your water fall outside these parameters. An additional 5 micron sediment and housing is recommended as a minimum pretreatment to guard against any large particles that may mask the ultraviolet light and also assist with startup procedures.



Dimensions			
A inches (cm)	17.32 (44)	23 (58.5)	31.5 (80)
B inches (cm)	2.5 (6.35)	2.5 (6.35)	2.5 (6.35)
C inches (cm)	4.33 (11)	4.33 (11)	4.45 (11.3)
D inches (cm)	21.65 (55)	27.56 (70)	36.61 (93)

Specifications			
Item #	8880	8881	8882
Model #	Buv-6	Buv-8	Buv-12
NSF Rated Flow Rate @ 16mJ/cm2 @ 70% UVT - usgpm (l/min)	5.5 (20.79)	7.8 (29.48)	12 (45.36)
Flow Rate @ 16 mJ/cm2 @ 96% UVT - usgpm (l/min)	12 (45.36)	18.8 (71)	26 (98.28)
Flow Rate @ 30 mJ/cm2 @ 96% UVT - usgpm (l/min)	6.4 (24.2)	10 (37.8)	13.9 (52.5)
Flow Rate @ 40 mJ/cm2 @ 96% UVT - usgpm (l/min)	4.8 (18.14)	7.5 (28.35)	10.4 (39.31)
Lamp Power (Watt)	21	29	40
Max. Current (Amp)	0.4	0.4	0.5
Inlet and Outlet Size NPT	1/2"	3/4"	1"
Weight lbs (kg)	6 (2.67)	8 (3.57)	12 (5.36)
Operating Pressure psi (kpa)	10-100 psi (69-689 kPa)		
Operating Temperature Range	36 to 104° F (2 to 40° C)		
Electrical	100-240V - 50/60Hz		
Electrical Plug	North American		

# PURA™ ULTRAVIOLET DISINFECTION SYSTEMS



## UVB Series™

PURA Product's patented UVB Series is designed to provide disinfected water at a flow rate of 2 gallons per minute. In addition to disinfection, water is filtered through our 0.5 micron Extended Pass Carbon Block (EPCB) filter. Our double and triple models provide you with additional filtration with sediment and activated carbon filters.

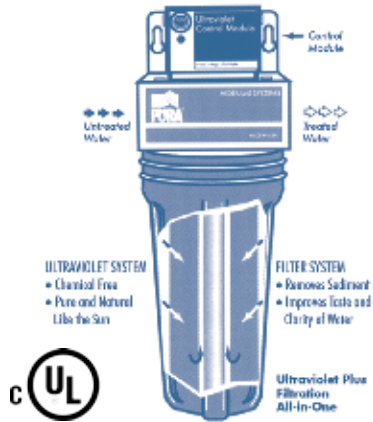
This compact All-in-One system installs with ease and can be used anywhere that clean, clear, good tasting disinfected water is needed. It is ideal for point-of-use applications like under the kitchen sink, office water coolers, water vending machines, boats, recreational vehicles, etc.

### Features:

- ➔ Electronic lamp indicator (LED)
- ➔ Standard voltage 115V

### Options:

- ➔ 220V/50Hz (2-Prong Euro plug)
- ➔ 12V DC
- ➔ Lamp Out Circuit (LOC) - (normally open) Safety monitor for alarm
- ➔ Lamp Out Circuit (LOC) - (normally closed) Safety monitor for solenoid shut off
- ➔ Three year warranty except on electrical components which are covered for a period of one year.



## Specifications & Performance UVB Series

Item #	Model Description	# of sumps	Sump Type	Sump 1	Sump 2	Sump 3	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions H x W x D In. (cm)	Shipping Weight Lbs. (Kg)	Inlet/Outlet Size
15610111	UVB1-EPCB	1	#10	EPCB Carbon/UV	none	none	#11	14 Watts	2 (7.6)	15 x 5.5 x 5.5 (38.1 x 14 x 14)	10.0 (4.5)	3/8" NPT
15610411	UVB1-EPCB Normally Closed	1	#10	EPCB Carbon/UV	none	none	#11	14 Watts	2 (7.6)	15 x 5.5 x 5.5 (38.1 x 14 x 14)	10.0 (4.5)	3/8" NPT
15610511	UVB1-EPCB Normally Open	1	#10	EPCB Carbon/UV	none	none	#11	14 Watts	2 (7.6)	15 x 5.5 x 5.5 (38.1 x 14 x 14)	10.0 (4.5)	3/8" NPT
15620121	UVB2-EPCB/SD	2	#10	5 Micron Sed Filter	EPCB Carbon/UV	none	#11	14 Watts	2 (7.6)	15 x 11 x 5.5 (38.1 x 27.9 x 14)	15.0 (6.8)	3/8" NPT
15630131	UVB3-EPCB/GC/SD	3	#10	5 Micron Sed Filter	Granular Carbon Filter	EPCB Carbon/UV	#11	14 Watts	2 (7.6)	15 x 16 x 5.5 (38.1 x 40.6 x 14)	24.0 (10.9)	3/8" NPT

Note: (1) All flow rates shown will provide a UV dose of no less than 16,000 mW-s/cm2 or greater.



# PURA™ ULTRAVIOLET DISINFECTION SYSTEMS

## UV20 Series™

The PURA Product’s UV20 Series is designed to provide disinfected water at a flow rate of 8 - 10 gallons per minute. This system is ideal for whole house water treatment. In addition to disinfection, the double and triple models provide filtration for the removal of sediment and chemical contaminants.

This ultraviolet water treatment system makes a perfect companion to water softeners, distillers, reverse osmosis and ozone systems. The UV20 Series has proven to be PURA Product’s most popular product line and has created an industry standard in whole house disinfection.

### Features:

- Electronic lamp indicator (LED)
- Standard voltage 115V

### Options:

- 220V/50Hz (2-Prong Euro plug)
- 12V DC
- Lamp Out Circuit (LOC) - (normally open) Safety monitor for alarm
- Lamp Out Circuit (LOC) - (normally closed) Safety monitor for solenoid shut off
- Three year warranty except on electrical components which are covered for a period of one year.



## Specifications & Performance UV20 Series

Item Number	Model Description	# of sumps	Sump Type	Sump 1	Sump 2	Sump 3	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions H x W x D In. (cm)	Shipping Weight Lbs. (Kg)	Inlet/Outlet Size
15710100	UV20-1	1	#20	UV	none	none	#20	22 Watts	10 (38)	25 x 5.5 x 5.5 (63.5 x 14 x 14)	16.0 (7.3)	3/4" NPT
15710400	UV20-1 Normally Closed	1	#20	UV	none	none	#20	22 Watts	10 (38)	25 x 5.5 x 5.5 (63.5 x 14 x 14)	16.0 (7.3)	3/4" NPT
15710500	UV20-1 Normally Open	1	#20	UV	none	none	#20	22 Watts	10 (38)	25 x 5.5 x 5.5 (63.5 x 14 x 14)	16.0 (7.3)	3/4" NPT
15720121	UV20-2 SD	2	#20	5 Micron Sed Filter	UV	none	#20	22 Watts	10 (38)	25 x 11 x 5.5 (63.5 x 27.9 x 14)	23.0 (10.4)	3/4" NPT
15720421	UV20-2 SD Normally Closed	2	#20	5 Micron Sed Filter	UV	none	#20	22 Watts	10 (38)	25 x 11 x 5.5 (63.5 x 27.9 x 14)	23.0 (10.4)	3/4" NPT
15720521	UV20-2 SD Normally Open	2	#20	5 Micron Sed Filter	UV	none	#20	22 Watts	10 (38)	25 x 11 x 5.5 (63.5 x 27.9 x 14)	23.0 (10.4)	3/4" NPT
15730131	UV20-3 SD/CB	3	#20	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	8 (30)	25 x 16 x 5.5 (63.5 x 40 x 14)	33.0 (15.0)	3/4" NPT
15730431	UV20-3 SD/CB Normally Closed	3	#20	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	8 (30)	25 x 16 x 5.5 (63.5 x 40 x 14)	33.0 (15.0)	3/4" NPT
15730531	UV20-3 SD/CB Normally Open	3	#20	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	8 (30)	25 x 16 x 5.5 (63.5 x 40 x 14)	33.0 (15.0)	3/4" NPT

Note: (1) All flow rates shown will provide a UV dose of no less than 16,000 mW-s/cm2 or greater.

# PURA™ ULTRAVIOLET DISINFECTION SYSTEMS

## UV BigBoy™ Series

The UV BigBoy Series is the most versatile commercial ultraviolet disinfection system on the market today. This 15 to 60 GPM series is manufactured with versatility in mind, and is virtually unlimited in the possible filter configurations and manifold sequences. The series is designed with the same traditional style that PURA has made an industry standard - worldwide.

One advantage of the UV BigBoy Series is the convenient manifold mounting rack. The rack can be used to configure up to four UV chambers in parallel or in series. This allows the user to achieve either a higher UV dosage or higher flow rate (up to 60 GPM).

This mounting rack configuration provides easy access for cleaning and maintenance to the individual units without the need to shut down the entire water distribution line. The standard LED lamp monitor provides a visual verification the lamp is in operation.

The UV BigBoy Series, with its capacity, versatility and cost, to be the world’s most flexible, complete water disinfection system in its class.

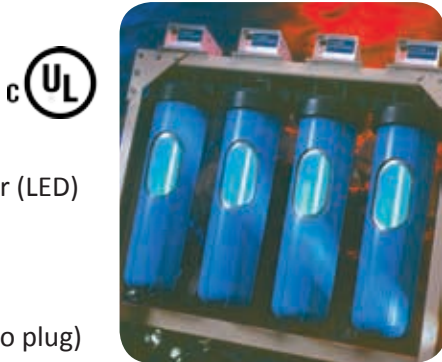


### Features:

- Electronic lamp indicator (LED)
- Standard voltage 115V

### Options:

- 220V/50Hz (2-Prong Euro plug)
- 12V DC
- Lamp Out Circuit (LOC) - (normally open) Safety monitor for alarm
- Lamp Out Circuit (LOC) - (normally closed) Safety monitor for solenoid shut off
- Three year warranty except on electrical components which are covered for a period of one year.



## Specifications & Performance UV BigBoy Series

Item #	Model Description	# of sumps	Sump Type	Sump 1	Sump 2	Sump 3	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions In. (cm) H x W x D	Shipping Wgt. Lbs. (Kg)	Inlet/Outlet Size
15810100	UVBB-1	1	#20BB	UV	none	none	#20	22 Watts	15 (57)	28 x 7.5 x 9.0 (71.1 x 19 x 22.9)	18.0 (8.2)	1-1/2" NPT
15810400	UVBB-1 Normally Closed	1	#20BB	UV	none	none	#20	22 Watts	15 (57)	28 x 7.5 x 9.0 (71.1 x 19 x 22.9)	18.0 (8.2)	1-1/2" NPT
15810500	UVBB-1 Normally Open	1	#20BB	UV	none	none	#20	22 Watts	15 (57)	28 x 7.5 x 9.0 (71.1 x 19 x 22.9)	18.0 (8.2)	1-1/2" NPT
15820121	UVBB-2	2	#20BB	5 Micron Sed Filter	UV	none	#20	22 Watts	15 (57)	28 x 15 x 9.0 (71.1 x 38.1 x 22.9)	35.0 (15.9)	1-1/2" NPT
15820421	UVBB-2 Normally Closed	2	#20BB	5 Micron Sed Filter	UV	none	#20	22 Watts	15 (57)	28 x 15 x 9.0 (71.1 x 38.1 x 22.9)	35.0 (15.9)	1-1/2" NPT
15820521	UVBB-2 Normally Open	2	#20BB	5 Micron Sed Filter	UV	none	#20	22 Watts	15 (57)	28 x 15 x 9.0 (71.1 x 38.1 x 22.9)	35.0 (15.9)	1-1/2" NPT
15830131	UVBB-3	3	#20BB	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	15 (57)	28 x 23 x 9.0 (71.1 x 58.4 x 22.9)	54.0 (24.5)	1-1/2" NPT
15830431	UVBB-3 Normally Closed	3	#20BB	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	15 (57)	28 x 23 x 9.0 (71.1 x 58.4 x 22.9)	54.0 (24.5)	1-1/2" NPT
15830531	UVBB-3 Normally Open	3	#20BB	5 Micron Sed Filter	10 Micron Carbon Block	UV	#20	22 Watts	15 (57)	28 x 23 x 9.0 (71.1 x 58.4 x 22.9)	54.0 (24.5)	1-1/2" NPT

## Specifications & Performance UV BigBoy Series

Item #	Model Description	# of sumps	Sump Type	Sump 1	Sump 2	Sump 3	Sump 4	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions In. (cm) H x W x D	Shipping Wgt. Lbs. (Kg)	Inlet/Outlet Size
15018001	UVBB-R1	4	#20BB	empty <sup>(2)</sup>	empty <sup>(2)</sup>	empty <sup>(2)</sup>	UV	#20	22 Watts	15 (57)	45x34x18 (114x86x45)	65.0 (29.5)	1-1/2" NPT
15018201	UVBB-R2	4	#20BB	empty <sup>(2)</sup>	empty <sup>(2)</sup>	UV	UV	#20	44 Watts	30 (114)	45x34x18 (114x86x45)	75.0 (34.0)	1-1/2" NPT
15018401	UVBB-R4	4	#20BB	UV	UV	UV	UV	#20	88 Watts	60 (227)	45x34x18 (114x86x45)	91.0 (41.3)	1-1/2" NPT

Notes: (1) All flow rates shown will provide a UV dose of no less than 16,000 mW-s/cm2 or greater.  
(2) Empty sumps on UVBB-Rack systems can be filled with a wide variety of optional cartridges.



# PURA™ ULTRAVIOLET DISINFECTION SYSTEMS

## UV1-EPCB Series™

PURA Product's UV1-EPCB Series is a great example of PURA Product's patented All-In-One concept. This product combines both ultraviolet disinfection with carbon filtration all in a very attractive and compact system.

The UV-1 Series is rated for 1 gallon per minute and uses either a 0.5 micron (EPCB) carbon block filter or a 10 micron (EPCB 10) carbon block filter. This easy to install system can be used as a stand alone or in conjunction with other water treatment products.

### Features:

- ➔ Compact Size
- ➔ Standard voltage 115V

### Options:

- ➔ 220V/50Hz (2-Prong Euro plug)
- ➔ 12V DC

### Specifications & Performance UV1-EPCB Series

Item #	Model Description	# of sumps	Sump Type	Sump Content	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions In. (cm) H x W x D	Shipping Wgt. Lbs. (Kg)	Inlet/Outlet Size
15910111	UV1-EPCB	1	#10SL	EPCB Carbon/UV	#10	10 Watts	1 (3.8)	13.5 x 5.0 x 5.0 (34.3 x 12.7 x 12.7)	7.0 (3.2)	1/2" NPT

Notes: EPCB refers to Extended Pass Carbon Block filter  
(1) All flow rates shown will provide a UV dose of no less than 16,000 mW-s/cm2 or greater.

## UV ADDON Series™

PURA Product's UV ADDON Series is designed to be an easy addition to water treatment systems that require ultraviolet disinfection (RO systems, holding tanks, water dispensers, recirculating systems and more). The ADDON systems are available with a 1 GPM or 3 GPM flow rate. They are constructed using a 304 grade stainless steel body with a molded head that includes 3/8" quick connect fittings on the inlet/outlet. This versatile system also includes a heavy duty mounting bracket, but will also fit standard 2" RO mounting clips. The UV ADDON Series can be used almost anywhere and is equipped with a unique power supply that makes installation simple, space requirements minimal and lamp changes easy.

### Features:

- ➔ 3/8" quick connect fittings
- ➔ Standard voltage 115V

### Options:

- ➔ 220V/50Hz (2-Prong Euro plug)
- ➔ 12V DC

### Specifications & Performance UV ADDON Series

Item #	Model Description	# of sumps	Sump Type	Sump Content	Lamp #	Power Used	Flow Rates <sup>(1)</sup> GPM (L/min)	Dimensions In. (cm) H x W x D	Shipping Wgt. Lbs. (Kg)	Inlet/Outlet Size
15510100	UV ADDON-1	1	304 SS	UV	#10	10 Watts	1 (3.8)	12 x 4 x 3.5 (30.5 x 10.2 x 8.9)	5.0 (2.3)	3/8" QC
15530100	UV ADDON-3	1	304 SS	UV	#20	22 Watts	3 (11.4)	22.5 x 4 x 3.5 (57.2 x 10.2 x 8.9)	7.0 (3.2)	3/8" QC

Note: (1) All flow rates shown will provide a UV dose of no less than 16,000 mW-s/cm2 or greater.



# IMPROVED WATER QUALITY IN THE HOME



## AQUA FLO

### AQUA FLO POINT-OF-USE FILTRATION PRODUCTS





# AQUA FLO POINT-OF -USE WATER FILTERS

Novo offers a wide range of point-of-use filtration solutions.

## AQUA FLO

**Aqua Flo Economy** - A full line of quality POU products at a great price point.

There are two considerations when making a choice of filtration systems:

- 1) Type of Housing
- 2) Type of Filter Cartridge

### Housings:

Housings come in different sizes, colors, materials of construction and offer different features. Here is a quick breakdown:

- ➔ **Size** – You need to consider the constraints of your install space first but in general the larger the diameter and longer the housing the more flow rate it can handle and higher removal capacity of the cartridge meaning less frequent cartridge changes.
- ➔ **Color** – Housings are usually transparent or opaque. Transparent housing allow for visual inspection when determining to change the cartridges. They are not suitable for outdoor applications however.
- ➔ **Materials of Construction** – Plastic housing are standard for residential applications and temperatures up to 100°F (38°C). Stainless Steel housings, while more expensive, are more durable and can filter higher temperature liquids.
- ➔ **Features** – Some models of plastic housings come with a shut-off valve built into the head of the housing allowing for easier service and installation.



### Cartridges:

There is an overwhelming selection of cartridges to choose from. We have selected a range of cartridges to cover most water quality needs. The two most common applications are for sediment removal and for taste & odor removal (various types of carbon filtration).

A micron rating is also common for most cartridges. One micron is equivalent to 0.000039 inches (the diameter of a human hair is 50 to 70 microns). Choosing the right micron rating is a balance between performance and cartridge life. If you chose a smaller micron rating and the cartridge is loading up too fast then a higher micron rated cartridge may provide a better balance.



# AQUA FLO FILTERS



The Aqua Flo range of filters and replacement cartridges improves water quality in the home,

### \*Carbon Block (CB) Cartridge Filter

The CB cartridge filter is suitable for high capacity chlorine and bad taste and odor reduction from

drinking water. These filters are also used for sediment filtration, making them a great choice for pre-filtering water for reverse osmosis applications. They make an ideal choice for a wide range of residential, food service, commercial and industrial applications.

#### Features:

- ➔ High Dirt-Holding Tolerance Maximizes Utilization of the Carbon Block
- ➔ High porosity maximizes utilization of the carbon block



### \*Dual Gradient (DG) Density Cartridge Filters

DG cartridge filters are made from 100% polypropylene. The progressively loose structure from inside to outside enhance cartridge performance in reduction of dirt, dust and other particles. The two separate gradient layers of the filter enhances the performance such that it achieves a much higher dirt-loading capacity compared to similar size sediment cartridge filters including spun and string-wound. They make an ideal sediment reduction choice for a wide range of residential, food service, commercial and industrial applications.

#### Features:

- ➔ No Fiber release and media migration
- ➔ Designed for purity, bacteria and chemical resistance
- ➔ Two Separate Gradient density layers enhance cartridge performance
- ➔ Three times the dirt-holding capacity than other traditional sediment filters

### Impregnated Carbon Cellulose (ICC) Dual Purpose Filter

The ICC cartridge filter has a dual benefit for sediment filtration and reduction of chlorine and bad taste and odor from drinking water. These carbon wrap sediment cartridges consists of polypropylene melt blown core with carbon impregnated outer layer wrap. It is an economical solution for general water filtration requirements. This filter has high dirt-loading capacity and is recommended for chlorinated water supplies. These dual-purpose cartridges are well suited for residential applications, and are great polishing filters for closedloop water stream systems. The netting and reinforced support provide strength to the filter.

#### Features:

- ➔ Provides sediment filtration as well as taste/odor /chlorine reduction
- ➔ High dirt loading capacity
- ➔ External netting for additional strength



Item #	Model #	Maximum Size	Micron	Capacity (Gallons)	Flow Rate (gpm)
26192	CCB-1-10"	2.5" X 10"	1	10,000 gallons @ 1 gpm	1 gpm
26193	CCB-5-10"	2.5" X 10"	5	6,000 gallons @ 1 gpm	1 gpm
26194	CB-0.5-10	2.5" X 10"	0.5	20,000 gallons @ 1 gpm	1 gpm
26195	CB-5-10	2.5" X 10"	5	6,000 gallons @ 1 gpm	1 gpm
26196	CB-10-10	2.5" X 10"	10	3,000 gallons @ 1 gpm	1 gpm
26197	CB-0.5-20	2.5" X 20"	0.5	45,000 gallons @ 2 gpm	2 gpm
26198	CB-5-20	2.5" X 20"	5	12,000 gallons @ 2 gpm	2 gpm
26199	CB-10-20	2.5" X 20"	10	6,000 gallons @ 2gpm	2 gpm
26201	CB-0.5-10BV	4.5" X 10"	0.5	50,000 gallons @ 2 gpm	2 gpm
26202	CB-5-10BV	4.5" X 10"	5	22,000 gallons @ 2 gpm	2 gpm
26203	CB-10-10BV	4.5" X 10"	10	15,000 gallons @ 2gpm	2 gpm
26204	CB-0.5-20BV	4.5" X 20"	0.5	150,000 gallons @ 4gpm	4 gpm
26205	CB-5-20BV	4.5" X 20"	5	40,000 gallons @ 4 gpm	4 gpm
26206	CB-10-20BV	4.5" X 20"	10	30,000 gallons @ 4 gpm	4 gpm

Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26207	DG-25-1-10BV	4.5" X 10"	25/1	10 gpm
26208	DG-50-5-10BV	4.5" X 10"	50/5	10 gpm
26209	DG-75-25-10BV	4.5" X 10"	75/25	10 gpm
26210	DG-25-1-20BBV	4.5" x 20"	25/1	20 gpm
26211	DG-50-5-20BV	4.5" X 20"	50/5	20 gpm
26212	DG-75-25-20BV	4.5" X 20"	75/25	20 gpm

Item #	Model #	Maximum Size	Micron	Capacity (Gallons)	Flow Rate (gpm)
26278	ICC-5-10	2.5" X 10"	5	2,500 gallons @ 1 gpm	5 gpm
26189	ICC-20-20BV	4.5" X 20"	20	7,500 gallons @ 4 gpm	10 gpm



# AQUA FLO FILTERS



## Pleated Polyester Reusable (PR) Cartridge Filter

PR cartridge filters are made from reusable polyester fibers which are pleated to maximize dirt holding capacity. These cartridge filters are multipurpose.

### Features:

- Pleated design maximizes dirt-holding capacity
- Durable, versatile and reusable
- Polyester media is bacteria and chemical resistant
- Nominal 30-micron rating and nominal 50-micron rating

Item #	Model #	Maximum Size	Micron	Capacity (Gallons)	Flow Rate (gpm)
26242	PR-30-10BV	4.5" X 10"	30	24,000 @ 10.0 gpm	10 gpm
26243	PR-50-10BV	4.5" X 10"	50	24,000 @ 10.0 gpm	10 gpm
26244	PR-30-20BV	4.5" X 20"	30	48,000 @ 10.0 gpm	20 gpm



## \*Radial Flow (RF) Granular Activated Carbon Cartridge Filters

The RF cartridge filters are the solution for effective reduction of chlorine and bad taste and odor. These filters provide low pressure drop and carbon fines released from the filter are much less compared to the same size GAC style cartridge filter.

### Features:

- Ideal for POE (whole house) and other high flow rate applications
- Unique design reduces carbon fines in filtered water
- Very low pressure drop

Item #	Model #	Maximum Size	Micron	Capacity (Gallons)	Flow Rate (gpm)
26253	RF-20	2.5" X 20"	N/A	6,000 gallons @ 2 gpm	4 gpm
26254	RF-10	2.5" X 10"	N/A	3,000 gallons @ 1 gpm	1 gpm
26255	RF-10BV	4.5" X 10"	N/A	35,000 gallons @ 2 gpm	4 gpm
26256	RF-20BV	4.5" X 20"	N/A	70,000 gallons @ 4 gpm	8 gpm



## \*Spun Poly Bonded (SPB) Cartridge Filters

The SPB filters are manufactured from 100% polypropylene which is resistant to chemical and less prone to bacterial attack. Also they do not impart any taste and odor to the water.

### Features:

- Use on chlorinated or non-chlorinated supplies.
- Designed for purity, bacteria and chemical resistance
- Spun fibers form a true gradient
- Density from outer to inner surfaces

Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26213	SPB-1-10	2.5" X 10"	1	4 gpm
26222	SPB-5-10	2.5" X 10"	5	5 gpm
26221	SPB-5-20	2.5" X 20"	5	10 gpm



## \*Granular Activated (CGAC) Carbon Cartridge Filter

The CGAC cartridge filters are effective in reduction of chlorine and other bad taste and odor from drinking water. CGACC cartridge filter contain coconut shell based activated carbon which is an environment friendly but also effective in reducing certain compounds\* better than the coal based granular activated carbon filter cartridges.

### Features:

- Effective taste/odor/chlorine reduction
- Designed for maximum adsorption
- Post filter to reduce carbon fines

Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26185	CGACC-10	2.5" X 10"	7,500 gallons @ 1 gpm	1 gpm @ 7 psi drop
26277	CGAC-10	2.5" X 10"	5,000 gallons @ 1.0 gpm	1 gpm @ 7 psi drop
26186	CGAC-20	2.5" X 20"	10,000 gallons @ 2.0 gpm	2 gpm @ 15 psi drop
26187	CGAC-BV	4.5" X 10"	12,500 gallons @ 2.0 gpm	2 gpm @ 5 psi drop
26188	CGAC-20BV	4.5" X 20"	25,000 gallons @ 4.0 gpm	4 gpm @ 5 psi drop

# AQUA FLO FILTERS



## Polypropylene Melt Blown (PPMB) Filter Cartridges

The PPMB cartridge filters are made by thermally bonding polypropylene microfibers for higher filtration efficiency performance. The polypropylene material is chemical resistant and not prone to bacterial attack. They will also not add any taste, color and odor

to the water. They are available in wide variety of sizes and micron ratings.

### Features:

- Constructed from high quality polypropylene filter media for higher filtration efficiency
- Thermally bonded micro-fiber construction for high strength
- Available in micron ratings from 1 to 50 and lengths from 10"- 40

Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26269	PPMB-5-10	2.5" X 10"	5	3 gpm
26223	PPMB-10-10	2.5" X 10"	10	4 gpm
26224	PPMB-25-10	2.5" X 10"	25	5 gpm
26225	PPMB-50-10	2.5" X 10"	50	8 gpm
26226	PPMB-1-20	2.5" X 20"	1	4 gpm
26227	PPMB-5-20	2.5" X 20"	5	7 gpm
26228	PPMB-10-20	2.5" X 20"	10	9 gpm
26229	PPMB-25-20	2.5" X 20"	25	11 gpm
26230	PPMB-50-20	2.5" X 20"	50	15 gpm
26231	PPMB-1-40	2.5" X 40"	1	8 gpm
26232	PPMB-5-40	2.5" X 40"	5	14 gpm
26233	PPMB-20-40	2.5" X 40"	20	20 gpm
26234	PPMB-1-10BV	4.5" X 10"	1	6 gpm
26235	PPMB-5-10BV	4.5" X 10"	5	10 gpm
26236	PPMB-10-10BV	4.5" X 10"	10	11 gpm
26237	PPMB-20-10BV	4.5" X 10"	20	14 gpm
26238	PPMB-1-20BV	4.5" X 20"	1	12 gpm
26239	PPMB-5-20BV	4.5" X 20"	5	20 gpm
26240	PPMB-10-20BV	4.5" X 20"	10	20 gpm
26241	PPMB-20-20BV	4.5" X 20"	20	20 gpm

## \*String Wound (SW) Polypropylene Cartridge Filters

SW cartridge filters are manufactured from polypropylene cord which is wound around the polypropylene core. These cartridge filters are economical solution for reduction of sediment, sand, rust and scale particles from the drinking water.

Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26273	SW-5-10	2.5" X 10"	5	5 gpm
26246	SW-10-10	2.5" X 10"	10	7 gpm
26247	SW-30-10	2.5" X 10"	30	10 gpm
26249	SW-50-10	2.5" X 10"	50	10 gpm
26250	SW-1-20	2.5" X 20"	1	15 gpm
26251	SW-5-20	2.5" X 20"	5	15 gpm
26252	SW-30-10	4.5" X 10"	30	20 gpm

### Features:

- String wound filters reduces sediment from a variety of liquids
- Low pressure drop
- Withstand high temperatures
- Wide chemical compatibility



## Pleated Polyester Cartridge (PPC) Filter

The PPC cartridge filters are made from resin impregnated cellulose and polyester fibers. They are constructed with thermally bonded media with end caps and inner core heat sealed together.

### Features:

- Special formulation of resin impregnated cellulose and polyester fibers
- Provides higher wet strength than regular cellulose cartridges
- High flow rate and high dirt holding capacity
- Wide Variety on sizes and micron ranges available

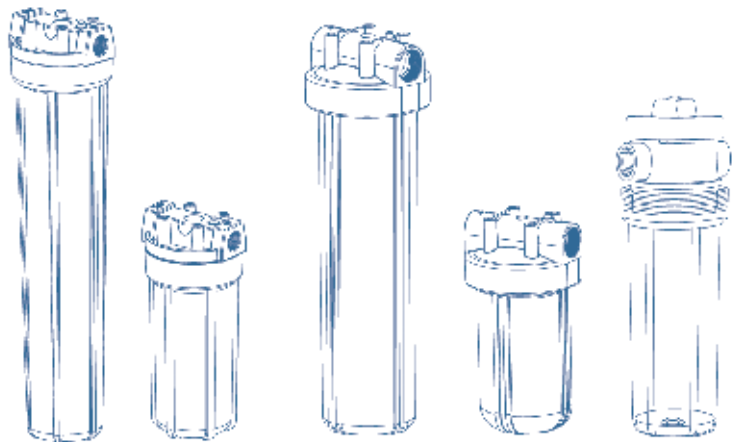
Item #	Model #	Maximum Size	Micron	Flow Rate (gpm)
26174	PPC-1-10	2.5" X 10"	1	5 gpm
26175	PPC-5-10	2.5" X 10"	5	7 gpm
26176	PPC-1-20	2.5" X 20"	1	10 gpm
26177	PPC-5-20	2.5" X 20"	5	13 gpm
26178	PPC-5-10BB	4.5" X 10"	5	18 gpm
26179	PPC-20-10BB	4.5" X 10"	20	20 gpm
26180	PPC-5-20BB	4.5" X 20"	5	20 gpm
26181	PPC-20-20BB	4.5" X 20"	20	35 gpm



# AQUA FLO FILTER HOUSINGS

**Model#s** P-H-PR-10-34, P-H-PR-10-34-C/B, P-H-PR-10BV-1, P-H-PR-10BV-34, P-H-PR-B-10-34, P-H-PR-B-10-34-C/BL, P-H-VIH-10-34-C/BL

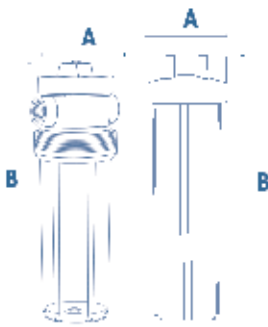
**NOTE:** This filter housing does NOT include a filter cartridge. Choose the appropriate filter cartridge for your needs and install in housing according to the Cartridge Replacement instructions before proceeding with installation. See cartridge selection chart.



## Specification

### Parts Included:

- ➔ Filter housing
- ➔ Housing wrench
- ➔ Bracket with mounting hardware



### Tools Required

- 2 adjustable wrenches
- 2 pipe wrenches
- file
- pencil
- pipe threader
- pipe cutter or hacksaw

### Materials Required (not included)

Depends on type, size, and location of pipe on which filter will be installed. Measure the pipe to determine what size nipples, union, and valve you will need. Depending on the pipe size, you will also need to purchase the appropriate size fittings. Consult your local hardware store to learn more about your particular installation needs.

**NOTE:** Galvanized fittings must be used with galvanized pipe.

### Optional Materials

- jumper wire

## Filter Housing Specifications

Category	Part #	Model #	Housing Material	Housing O-Ring Material	Size	In/Out	Temperature Range (Deg F)	Operating Pressure Range (psi)	City Water/ Well Water
Housing (w/PR)	26051	P-H-PR-10-34	Polypropylene (blue) & AS (clear)	EPDM	2.5"X10"	3/4"	40 to 140	30-100	Both
Housing (w/PR)	26052	P-H-PR-10-34-C/BL	Polypropylene (blue) & AS (clear)	EPDM	2.5"X10"	3/4"	40 to 140	30-100	Both
Housing (w/PR)	26053	P-H-PR-10BV-1	Polypropylene (blue) & AS (clear)	EPDM	4.5"X10"	1"	40 to 140	30-100	Both
Housing (w/PR)	26055	P-H-PR-10BV-34	Polypropylene (blue) & AS (clear)	EPDM	4.5"X 10"	3/4"	40 to 140	30-100	Both
Housing (w/PR)-3G	26056	P-H-PR-B-10-34	Polypropylene (blue) & AS (clear)	EPDM	2.5"X10" (3G)	3/4"	40 to 140	30-100	Both
Housing (w/PR)-3G	26058	P-H-PR-B-10-34-C/BL	Polypropylene (blue) & AS (clear)	EPDM	2.5"X10" (3G)	3/4"	40 to 140	30-100	Both
Housing - VIH/PR	26060	P-H-VIH-10-34-C/BL	Polypropylene (blue) & AS (clear)	EPDM	2.5"X10"	3/4"	40 to 140	30-100	Both

\*SS = stainless steel threads

# AQUA FLO FILTER CARTRIDGES

Cartridge Selection (For Filter Housing Model # H-PR-10BV-34 and H-PR-10BV-1)			
Select the Cartridge Filter for your water needs	PR-50-10BV (Part# 26243)	PPC-5-10BV (Part# 26178)	RF-10BV (Part# 26255)
Filter Type	Pleated Polyester Reusable	Pleated Cellulose Cartridge - Polyester	Radial Flow Granular Activated Carbon
Scale and Rust Particles	X	X	
Coarse Sand	X	X	
Sand/Dirt/Silt		X	
Fine Dirt/Silt/Sand		X	
Extra Fine Dirt/Silt/Sand		X	
Bad Taste & Odor			X
Aethetic Chlorine: Taste & Odor			X
Filter Life (in months)*	6	6	6
Micron Rating (Nominal) +	50	5	
Service Flow Rate gpm (lpm)**	10 (37)	18 (66)	4(15)

\*NOTE: Filter cartridge life varies depending on usage and water conditions

\*\*NOTE: Flow rates measured at 60 psi (4.1 bar)

The smaller the micron rating, the smaller the size particle the cartridge will filter. For comparison purposes, the human hair has a diameter of approximately 70 microns. Particles smaller than 40 microns are not visible with the human eye.

Cartridge Selection (For Filter Housing Model # H-PR-20BV-34, H-PR-20BV-1 & H-PR-20BV-15 )			
Select the Cartridge Filter for your water needs	PR-30-20BV (Part# 26244)	PPC-5-20BV (Part# 26180)	RF-20BV (Part# 26256)
Filter Type	Pleated Polyester Reusable	Pleated Cellulose Cartridge - Polyester	Radial Flow Granular Activated Carbon
Scale and Rust Particles	X	X	
Coarse Sand	X	X	
Sand/Dirt/Silt		X	
Fine Dirt/Silt/Sand		X	
Extra Fine Dirt/Silt/Sand		X	
Bad Taste & Odor			X
Aethetic Chlorine: Taste & Odor			X
Filter Life (in months)*	6	6	6
Micron Rating (Nominal) +	30	5	
Service Flow Rate gpm (lpm)**	20 (76)	20 (76)	4 (15)












\*NOTE: Filter cartridge life varies depending on usage and water conditions

\*\*NOTE: Flow rates measured at 60 psi (4.1 bar)






The smaller the micron rating, the smaller the size particle the cartridge will filter. For comparison purposes, the human hair has a diameter of approximately 70 microns. Particles smaller than 40 microns are not visible with the human eye.



# AQUA FLO FILTER CARTRIDGES

Cartridge Selection (For Filter Housing Model # H-PR-10-34, WCT34SS & WVIH34SS) Cartridge Filter Size 2.5" X 10"										
										
Select the Cartridge Filter for your water needs	PCC-5-10 (Part# 26175)	RF-10 (Part# 26254)	PC-20-10 (Part# 26276)	SW-10-10 (Part# 26246)	WSW30 or SW-30-10 (Part# 26247)	WSW05 or SW-5-10 (Part# 26273)	WC-10 or CGAC-10 (Part# 26277)	WT10 or ICC-5-10 (Part # 26278)	SPB-5-10 (Part# 26222)	SPB-1-10 (Part# 26213)
Filter Type	Pleated Cellulose Cartridge - Polyester	Radial Flow Granular Activated Carbon	Pleated Cellulose Cartridge	String Wound Polypropylene	String Wound Polypropylene	String Wound Polypropylene	Granular Activated Carbon	Dual Purpose - Carbon Impregnated Cellulose	Spun Poly Bonded	Spun Poly Bonded
Scale and Rust Particles	X		X	X	X	X		X	X	X
Coarse Sand	X		X	X	X	X		X	X	X
Sand/Dirt/Silt	X		X	X	X	X		X	X	X
Fine Dirt/Silt/Sand	X			X		X		X	X	X
Extra Fine Dirt/Silt/Sand	X					X		X	X	X
Bad Taste & Odor		X					X	X		
Aesthetic Chlorine: Taste & Odor		X					X	X		
Filter Life (in months)*	6	6	6	6	6	6	6	6	6	6
Micron Rating (Nominal) +	5		20	10	30	5	—	5	5	5
Service Flow Rate gpm (lpm)**	5 (26)	1 (3.7)	10 (37)	7 (26)	10 (37)	5 (18)			5 (5.6)	4 (5.6)

\*NOTE: Filter cartridge life varies depending on usage and water conditions  
\*\*NOTE: Flow rates measured at 60 psi (4.1 bar)  
The smaller the micron rating, the smaller the size particle the cartridge will filter. For comparison purposes, the human hair has a diameter of approximately 70 microns. Particles smaller than 40 microns are not visible with the human eye.

Cartridge Selection (For Filter Housing Model # H-PR-20-34)				
				
Select the Cartridge Filter for your water needs	PPC-5-20 (Part# 26177)	RF-20 (Part# 26253)	PC-20-20 (Part# 26182)	SPB-5-20 (Part# 26221)
Filter Type	Pleated Cellulose Cartridge - Polyester	Radial Flow Granular Activated Carbon	Pleated Cellulose Cartridge	Spun Poly Bonded
Scale and Rust Particles	X		X	X
Coarse Sand	X		X	X
Sand/Dirt/Silt	X		X	X
Fine Dirt/Silt/Sand	X			X
Extra Fine Dirt/Silt/Sand	X			X
Bad Taste & Odor		X		
Aesthetic Chlorine: Taste & Odor		X		
Filter Life (in months)*	6	6	6	6
Micron Rating (Nominal) +	5		20	5
Service Flow Rate gpm (lpm)**	13 (49)	4 (15)	15 (55)	10 (37)

\*NOTE: Filter cartridge life varies depending on usage and water conditions  
\*\*NOTE: Flow rates measured at 60 psi (4.1 bar)  
The smaller the micron rating, the smaller the size particle the cartridge will filter. For comparison purposes, the human hair has a diameter of approximately 70 microns. Particles smaller than 40 microns are not visible with the human eye.

# AQUA FLO FILTER ACCESSORIES

## 26007 Sump Wrench (new style)

Wrench with six notches. Fits AquaFlo sumps manufactured since January 1993.

## 92289 Sump Wrench (old style)

Wrench with four notches. Fits Aqua Flo sumps manufactured prior to 1993.



## 26023 Mounting Bracket

Convenient bracket with eight screws for mounting the WC34 filter.



## 26049 Aqua Flo Sump and O-Ring

Convenient bracket with eight screws for mounting the WC34 filter.

## 26022 O-Ring

Buna O-ring seals filter sump and head.





# STAINLESS STEEL HOUSINGS



**Features:**

- ➔ Low cost alternative to ROHeavy-duty units for smaller filtration systems and point-of-use applications
- ➔ Brushed 304 stainless steel sump with a cast brass / nickel plated head
- ➔ Ideal for high-pressure / hot water applications
- ➔ Utilizes double open-end cartridges

**Materials of Construction**

Housing	Brushed 304 Stainless Steel
Head	Brass / Nickel Plated
Max Temperature	300°F (149°C)
Pipe Size	3/4" NPT
Sealing Gaskets	Buna-N, Cellulose Fiber

Category	Part#	Model #	Size	Temperature Range (Deg F)	Operating Pressure Range (psi)	City Water/Well Water
Housing - SS	36146	P-SS-1	2.5"X10"	32 to 206.6	0 to 300	Both
Housing - SS	36147	P-SS-2	2.5"X20"	32 to 206.6	0 to 300	Both
Housing - SS	36148	P-SS-3	2.5"X30"	32 to 206.6	0 to 300	Both
Housing - SS	36145	P-SS-SF	2.5"X10"	32 to 206.6	0 to 300	Both
Housing - SS - STBC	36219	P-SS-BC-12	12-10" or 4-30"	32 to 206.6	0 to 300	Both
Housing - SS - STBC	36220	P-SS-BC-16	16-10" or 4-40"	32 to 206.6	0 to 300	Both
Housing - SS - STBC	36221	P-SS-BC-20	20-10" or 5-40"	32 to 206.6	0 to 300	Both
Housing - SS - STBC	36222	P-SS-BC-4	4-10"	32 to 206.6	0 to 300	Both
Housing - SS - STBC	36223	P-SS-BC-8	8-10" or 4 - 20"	32 to 206.6	0 to 300	Both

**#65020053 Side Stream Filter Assembly**

Pre-Assembled SS-1 Housing with stainless steel shutoffs and stainless steel flow indicator.

‘Side stream filters are primarily used for filtering a portion of the water in a closed loop boiler system to protect the boiler, controls and circulating pumps

Dimensions: 14 1/8" (h) x 20 3/4" (w) x 4 1/8" (d)



# ACCESSORIES



CHEMICAL FEED PUMPS  
PRO CHEMICALS  
TEST KITS  
MAZZEI INJECTORS  
JOHN GUEST FITTINGS





CHEMICAL FEED PUMPS

45 Pump Series Single Head Adjustable Rate

How it Works

Stenner’s adjustable metering pump is built with three detachable components: the motor, feed rate control and pump head. Outputs are dependent upon three factors: the rpm of the motor gears, the percentage setting on the feed rate control and the size of the peristaltic pump tube. All Stenner metering pumps have a 3-point roller design in the pump head, which acts as a check valve to prevent back flow, siphoning, overdosing and loss of prime.

The motor shaft rotates at a fixed rpm which drives the adjustable feed rate control to intermittently engage the roller assembly within the pump head. The chemical solution in the pump tube is captured between the rollers as they rotate and compress the tube. As the rollers advance, the squeezed tube section regains its original form and generates a vacuum, creating the self-priming feature that delivers a constant flow unaffected by the outlet pressure.

Advantages:

- ➔ Self-priming up to 25 feet does not lose prime
- ➔ Can pump off-gassing solutions
- ➔ Solutions contained in tube, not exposed to pump components or air
- ➔ Sub-assemblies fit together without tools, easy service or conversion to another model
- ➔ Pump head universal to all Stenner pumps
- ➔ Can run dry without damage
- ➔ Will not clog from dirt or debris
- ➔ Reproducible outputs within 2%
- ➔ Adjustable feed rate control from 5% - 100% in 2.5% increments
- ➔ Pump tubes accept a variety of chemical
- ➔ 1 Year Guarantee from date of manufacture



STENNER PUMPS

*The patented mechanical feed rate control allows the pump’s output to be scaled from 5% to 100% with the simple turn of the dial.*

CHEMICAL FEED PUMPS

45MHP2

100 psi (6.9 bar)  
max 3 gpd (11 lpd)

Outputs @ 60Hz

Gallons per day: 0.2 to 3.0  
Gallons per hour: 0.01 to 0.13  
Liters per day: 0.8 to 11.4  
Liters per hour: 0.03 to 0.48  
Ounces per minute: 0.02 to 0.27  
Milliliter per minute: 0.56 to 7.92

Outputs @ 50Hz

Liters per day: 0.6 to 9.1  
Liters per hour: 0.03 to 0.38  
Milliliters per minute: 0.31 to 6.32

Maximum Operating Temperature  
12° F (52° C)

Amp Draw

1.7 120V; 0.9 220V, 230V, 250V

Dimensions (l x w x h)

10.6 x 5.3 x 6.0 in  
(26.9 x 13.4 x 15.2 cm)

Shipping Weight

9 lbs (4 kg)

45MHP10

100 psi (6.9 bar)  
10 max gpd (38 lpd)

Outputs @ 60Hz

Gallons per day: 0.5 to 10.0  
Gallons per hour: 0.02 to 0.42  
Liters per day: 1.9 to 37.9  
Liters per hour: 0.08 to 1.58  
Ounces per minute: 0.04 to 0.89  
Milliliter per minute: 1.32 to 26.32

Outputs @ 50Hz

Liters per day: 1.5 to 30.3  
Liters per hour: 0.06 to 1.26  
Milliliters per minute: 1.04 to 21.04

Discharge Pressure  
26-100 psi (1.7-6.9 bar)

Voltage

120V 60Hz; 220V 60Hz  
230V 50Hz; 250V 50Hz International

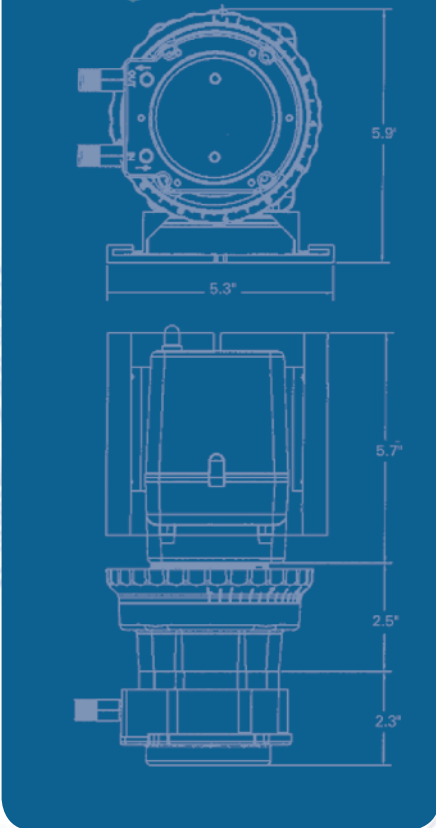
Motor

shaded pole; 26 rpm; 1/30 HP

Suction Lift

25’ (7.6 m))

STENNER PUMPS



Item #		Model	Tube	Feed Rate Setting: Outputs per day in US Gallons @ 60Hz										
CDN #	US #			L	1	2	3	4	5	6	7	8	9	10
11873	11873	45MHP2	#1	0.2	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
11874	11810													
11876	11809	45MHP10	#2	0.5	1	2	3	4	5	6	7	8	9	10
11879	11808													

Item #	Description
11873	45MHP2-110v, ¼" tubing
11874	45MHP2-220v, ¼" tubing
11876	45MHP10-110v, ¼" tubing
11879	45MHP10-220v, ¼" tubing



# CHEMICAL FEED PUMPS

## 85 Pump Series Single Head Adjustable Rate

### How it Works

Stenner's fixed output metering pump is built with two detachable components: the motor and pump head. Outputs are dependent upon the rpm of the motor gears and the size of the peristaltic pump tube. The fixed rate pump has no output adjustment. All Stenner metering pumps have a 3-point roller design in the pump head, which acts as a check valve to prevent back flow, siphoning, overdosing and loss of prime.

The motor's output shaft rotates at a fixed rpm which drives the roller assembly within the pump head. The chemical solution in the pump tube is captured between the rollers as they rotate and compress the tube. As the rollers advance, the squeezed tube section regains its original form and generates a vacuum, creating the self-priming feature that delivers a constant flow unaffected by the outlet pressure.

### Advantages:

- ➔ Self-priming up to 25 feet and does not lose prime
- ➔ Can pump off-gassing solutions
- ➔ Solutions contained in tube, not exposed to pump components or air
- ➔ Subassemblies fit together without tools; easy service or conversion to another model
- ➔ Pump head universal to all Stenner pumps
- ➔ Can run dry without damage
- ➔ Will not clog from dirt or debris
- ➔ Reproducible outputs within 2%
- ➔ Adjustable feed rate control from 5%-100% in 2.5% increments
- ➔ Pump tubes accept a variety of chemicals

Item #		Model	Tube	Feed Rate Setting: Outputs per day in US Gallons @ 60Hz										
CDN #	US #			L	1	2	3	4	5	6	7	8	9	10
11880	11852	85MHP5	#1	0.3	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
11872	11853													

Item #	Description
11880	STENNER-PUMP-85MHP5-110
11872	STENNER-PUMP-85MHP5-220



STENNER PUMPS

### Outputs @ 60Hz

Gallons per day: 0.8 to 17.0  
Gallons per hour: 0.03 to 0.71  
Liters per day: 3.0 to 64.4  
Liters per hour: 0.13 to 2.68  
Ounces per minute: 0.07 to 1.51  
Milliliter per minute: 2.08 to 44.65

### Outputs @ 50Hz

Liters per day: 2.4 to 51.5  
Liters per hour: 0.10 to 2.15  
Milliliters per minute: 1.67 to 35.76

### Discharge Pressure

26-100 psi (1.7-6.9 bar)

### Voltage

Voltage 120V 60Hz; 220V 60Hz230V 50Hz; 250V 50Hz International

### Motor

shaded pole; 44 rpm;  
1/30 HP

### Suction Lift

25' (7.6 m)

### Maximum Operating Temperature

125° F (52° C)

### Amp Draw

1.7 120V; 0.9 220V, 230V, 250V

### Dimensions (l x w x h)

10.6 x 5.3 x 6.0 in  
(26.9 x 13.4 x 15.2 cm)

### Shipping Weight

9 lbs (4 kg)

# CHEMICAL FEED PUMPS

### Materials of Construction

All Housings: Lexan® polycarbonate plastic  
Pump tube & check valve duckbill: Santoprene® FDA approved  
Pump tube: Tygothane® FDA approved  
Checkvalve duckbill (w/Tygothane tube): Pellathane®  
Suction/discharge tubing & ferrules (1/4" & 6 mm): LDPE polyethylene, NSF/FDA approved  
Tube fittings, connecting nuts, check valve fitting, weighted strainer: Type 1 Rigid PVC-NSF listed  
All fasteners: Stainless Steel  
Lexan® is a registered trademark of General Electric.  
Santoprene® is a registered trademark of Advanced Elastomer system  
Tygothane® is a registered trademark of Saint-Gobain Performance Plastics  
Pellathane® is a registered trademark of The Dow Company

### Agency listings

Santoprene®: UL, CSA , CE, NSF-50, NSF-61  
Tygothane®: UL, CSA, CE

### Accessories shipped with each pump

3 connecting nuts 1/4" or 3/8"  
3 ferrules 1/4" & 6 mm or 2 ferrules 3/8"  
1 injection check valve  
1 weighted strainer  
1 20' roll of suction/discharge tubing 1/4" or 3/8" white or UV black or 6 mm (Europe) white  
1 spare pump tube  
1 mounting bracket  
1 installation manual

STENNER PUMPS





FLOW SWITCH (LOW FLOW RATE – SPDT)

**Description:**  
For use on liquid lines using water, ethylene glycol solutions, or other liquids not corrosive to the brass or phosphor bronze parts. The SPDT contact switch is activated by a low flow rate; however, it has a large flow capacity with a minimum pressure drop.

- Applications:**
- ➔ Water purification and treatment systems
  - ➔ Booster pumps
  - ➔ Fast shutdown on high input boilers to guard against circulation failure
  - ➔ Cooling systems for electronic tubes, bearings, and compressors

F61KD-4



Item #	Description	Inlet and Outlet Size Female NPT	Enclosure NEMA Type	Adjustment Range - GPM (L/Min)		Maximum Liquid Temp	Minimum Liquid Temp	Maximum Liquid Pressure
				R to Y Closes Flow Increase	R to Y Opens Flow Decrease			
99000070	F61KD-4C Flow Switch (Low Flow Rate - SPDT)	3/4" x 3/4" (19mm x 19mm)	1	Min 0.6 (2.27) Max 1.1 (4.17)	Min 0.3 (1.14) Max 0.9 (3.4)	250°F (121°C)	32°F (0°C)	150 psig (1034 kPa)

Dimensions
5 1/32" h x 4" w x 2 13/16" d
127mm x 102mm x 71mm)

Electrical	120 VAC
Horsepower	1
AC Full Load A	16
AC Locked Rotor A	96
Non-Inductive or Resistance Load A	16
Pilot Duty	125 VA, 24/277 VAC

PULSAFEEDER KOPKIT



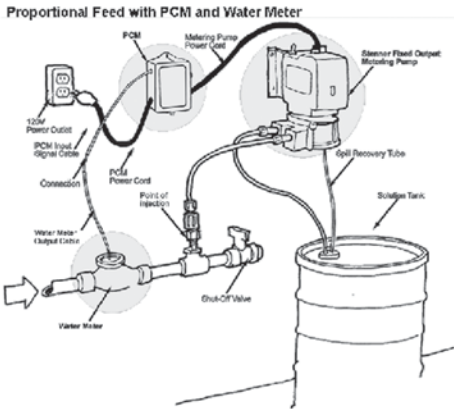
**Kopkit®**  
Available for every model, the KOPkit provides an economically priced package of parts required for routine maintenance. The kit typically contains new valve cartridges with o-rings, head, diaphragm, secondary o-ring seal, head screws and washers.

STENNER PUMP CONTROL MODULE

**How It Works:**  
The Pump Control Module (PCM) is a component of the proportional feed system, which delivers repeatable doses regardless of the system's flow rate. The system is used in applications requiring proportional chemical injection.

- The proportional feed system, Stenner refers to as the PCM system consists of three components:
- ➔ PCM – pump control module
  - ➔ Single head fixed output pump (45 or 85 model)
  - ➔ Dry contact water meter

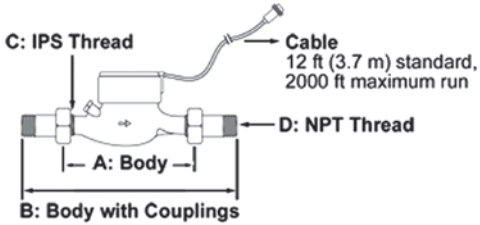
The water meter sends a pulse signal to the PCM which activates the pump to deliver the desired dose based on water volume. The PCM turns on the pump for the set duration determined to inject the solution into the water line.



WATER METERS

- Features:**
- ➔ Reed switch
  - ➔ Dry contact
  - ➔ Power not required

- Material:**
- ➔ Body: Cast bronze
  - ➔ Internal: Engineered thermoplastic
  - ➔ Magnet: Alnico



Size	A Body	B Body w Couplings	C IPS Thread	D NPT Thread
3/4"	7 1/2" (19.1 cm)	12 5/8" (32.1 cm)	1" (2.5 cm)	3/4" (1.9 cm)
1"	10 1/4" (26.0 cm)	15 5/8" (36.7 cm)	1 1/4" (3.2 cm)	1" (2.5 cm)
1 1/2"	11 3/4" (29.9 cm)	17 5/8" (44.8 cm)	2" (5.1 cm)	1 1/2" (3.8 cm)
2"	11 3/4" (29.9 cm)	17 5/8" (44.8 cm)	2 1/2" (6.4 cm)	2" (5.1 cm)

Water Meters		Min Flow	Max Flow	Max Operating Temp	Max Operating Pressure
Item #	Description	(Gallons Per Minute)			
80060050	Meter, Contacting Stenner WM0751G 3/4" 1Gallon/Pulse	0.22	22	105 F (40 C)	150 psi
80060051	Meter, Contacting Stenner WM1001G 1" 1Gallon/Pulse	0.44	52	105 F (40 C)	150 psi
80060052	Meter, Contacting, 1.5" 1.0 GPC, 404(Gal/Contact)	0.88	88	105 F (40 C)	150 psi
80060053	Meter, Contacting, 2.0" 1.0 GPC, 504(Gal/Contact)	1.98	132	105 F (40 C)	150 psi
27399	Timer, Stenner, Pump Control Module 5, 0.5 to 5.0 seconds				



RETENTION TANKS

Made from a unique 3 piece internal construction that allows for consistent engineered dome profiles and integrally bonded connections that lead to longer tank life. Its heavy duty base is molded out of ABS for maximum strength and durability. And, It has a removable schedule 80 PVC bottom connection that can be “accessorized” for increased installation flexibility.

- ➔ Durable PVC water connection.
- ➔ Flexwave tanks are made in the USA and built to comply with NSF/ANSI Std 61
- ➔ 5 year warranty



FWC Contact Retention Tanks - Dimensions & Capacities

Model	Item #	Total Tank Volume		Height		Diameter		Socket Glue Con- nection	FPT	Total Weight	
		Gallons	Litres	In	Cm	In	Cm			Lbs	Kilos
FWC 30	33201-1	30	114	42.5	108	16.5	41.8	1 1/4"schd-80	1 1/4"	23.0	10.4
FWC 40	33202-1	40	151	53.4	135.6	16.5	41.8	1 1/4"schd-80	1 1/4"	31.0	14.1
FWC 40 SQ	33203-1	40	151	36.9	93.8	21.4	54.2	1 1/4"schd-80	1 1/4"	33.1	15.0
FWC 80	33204-1	80	303	64.1	162.8	21.4	54.2	1 1/4"schd-80	1 1/4"	60.0	27.0
FWC 120	33205-1	120	454	71.5	181.6	24.2	61.4	1 1/4"schd-80	1 1/4"	83.5	38.0

Maximum working temperature, internal & external 120F. Materials of Construction: Tank top and bottom domes injection molded copolymer polypropylene. Shell extruded polypropylene. Outer shell composite construction with fiberglass coated with epoxy resin. Base is injection molded ABS. Top and side ports are stainless steel reinforced.

BAF Mixing Tank - Dimensions & Capacities

Model	Item #	Total Tank Volume		Height		Diameter		Thread Connec- tion	Outlet Connection at top of tank	Total Weight	
		Gallons	Litres	In	Cm	In	Cm			Lbs	Kilos
BAF 80	33217	80	303	64.1	163	21.4	54.4	1 1/4"NPT	1 1/4" FPT	23.0	10.4
BAF 120	33211	119	450	71.5	182	21.4	54.4	1 1/4"NPT	1 1/4" FPT	31.0	14.1

Maximum working pressure 100 PSI. Maximum working temperature, internal & external 120F. Materials of Construction: Copolymer polypropylene wrapped with fiberglass coated with epoxy resin. Base is rigid ABS. Inner baffle is a copolymer polypropylene with a PVC sch 40 standpipe and diffuser cap. Top port is stainless steel reinforced and bottome connections are a 1 1/4" NPT schedule 80- connection

MIXING TANKS



The Mixmaster(BAF) Series tanks are a retention tank with an internal baffle and diffuser which improves mixing and increases the retention time improving the effectiveness of chemi- cal treatment of water for disinfection or mineral removal. Great for killing bacteria or for agricultural applica- tions.

- ➔ Polypropylene tank reinforced with fiberglass sealed with epoxy resin.
- ➔ Cross- link polyethylene upper and lower water chamber. Standpipe and diffuser 1-1/4"pvc sch 40

CHEMICALS



Sani-System Liquid Sanitizer Concentrate

Sani-System is the only EPA & NSF approved sanitizer for use in water softeners and reverse osmosis units. It’s proven to kill 99.99% of harmful bacteria without the use of chlorine, oxidizers or acids that can harm system equipment parts and resin. The exact pre-measured doses of concentrated formula are contained in Ready-To-Use packets and sanitize equipment in 60 seconds!

Simple to Use:

For water softeners it is as simple as pouring into the brine well or brine tank and manually regenerating the unit. For reverse osmosis units, simply remove the cartridges and place the packet contents in the first housing and flush. Sani-System is the only sanitizer on the market proven by the WQA to safely sanitize an RO unit membrane.

User Benefits:

- ➔ Faster, easier and safer than other alternative sanitizers
- ➔ Easy & reliable single dose packages
- ➔ 99.99% effective kill rate against harmful bacteria
- ➔ Only sanitizer on market proven by WQA to sanitize membrane

Technical Information:

- ➔ Sani-System is a clear liquid and will react to oxidizers
- ➔ Routine storage. Rubber gloves are suggested when handling. Read all relevant MSDS before handling.
- ➔ Do not mix with other chemicals
- ➔ Certified to NSF/ANSI 60 Standards

Item #	Description
50035	Sani-System RO Sanitizer 0.25 fl.oz (24 Packets)
50032	Sani-System Water Softener Sanitizer 0.5 fl.oz (24 Packets)



# CHEMICALS

## Pro Chemicals

Pro Chemicals provides a diverse portfolio of water softener cleaners designed to clean, restore and maintain the life of water softeners. These products are formulated to treat water softeners with iron or for daily preventative maintenance.

### Rust Out® Water softener Cleaner/iron remover

Rust Out® chemically removes iron and rust build-up that coats the resin bead and fouls the water softener. Rust Out changes rust and iron into a clear solution that easily rinses away and does not contain harsh or abrasive chemicals that damage fiberglass, porcelain or acrylic finishes. The advanced formula contains more than five chemicals that are formulated to clean, restore and maintain the life of water softeners. Rust Out can also be used to clean tough rust stains from toilets, sinks, tubs, white clothes and exterior surfaces.



Item #	Description
45126	Rust Out - 1.5 lb. Bottle
45127	Rust Out - 5 lb. Bottle
45128	Rust Out - 50 lb Pail



### Res Care® liquid Resin Cleaning Solution

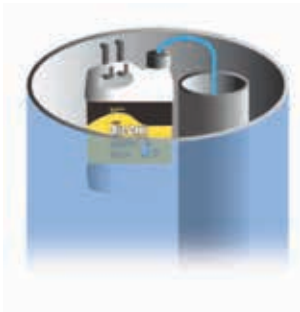
Res Care® is a specially formulated liquid cleaner designed to remove limited iron, manganese, silt, metal particles and organic compounds that cause softener inefficiencies. Regular use of Res Care will restore the softener back to peak efficiency and maintain the life of the unit. For best results use a Res Care Automatic Feeder or manually add during regeneration to prevent mineral build-up.

Item #	Description
45147	Res Care - 1 gal. (128 oz) Bottle
80030022	Res Care - 64 oz Bottle (Easy Feeder Refill)
45148	Res Care - 1 qt. (32 oz) Bottle

# CHEMICALS

## Easy Feeder

The Pro Easy Feeder automatically dispenses the right amount of Pro Res Care Cleaning Solution to maintain water softener efficiency. The Pro Easy Feeder is non-electric and easy to install and use. For use with 64 oz bottles of Res Care.



Item #	Description
55030005	Easy Feeder - 0.5 oz/day Feeder
55030006	Easy Feeder - 1.0 oz/day Feeder



### Pot® Perm Greensand Iron Filter Regenerant

The Pro Easy Feeder automatically dispenses the right amount of Pro Res Care Cleaning Solution to maintain water softener efficiency. The Pro Easy Feeder is non-electric and easy to install and use. For use with 64 oz bottles of Res Care.

Item #	Description
45143	Pot Perm - 5 Lb. Bottle
45145-1	Pot Perm - 10 Lb. Bottle
50010	Pot Perm - 55 Lb. Bottle



CHEMICALS

Ban T® Alkaline Water Neutralizer

Ban T® (formerly called Pro-Citric Acid) is specifically formulated to effectively lower pH and remove iron and other contaminants from fouled water softeners. Ban T should be used as preventative maintenance on all water softeners in areas with moderate iron content to clean, restore and maintain the life of the softener. Ban T is an environmentally-friendly cleaning agent that removes hard water deposits and moderate iron staining from household fixtures.



Item #	Description
45138	Ban T - 1.5 lb. Bottle



Neutra 7® Acid Water Neutralizer®

Neutra 7® (formerly called Pro Soda Ash) is a proprietary alkaline blend which neutralizes acid water and keeps the injection point clean. This helps to eliminate corrosion of piping, pressure tanks, water heaters and fixtures without the hassle of constant cleaning of calcium build-up.

Item #	Description
45157	Neutra 7 - 7 Lb. Bottle
45158	Neutra 7 - 40 Lb. Pail

MEDIA-PROPERTIES

Activated Carbon

Activated carbon, also called activated charcoal or activated coal, is a form of carbon that has been processed to make it extremely porous and thus to have a very large surface area available for adsorption or chemical reactions. Due to its high degree of microporosity, just one gram of activated carbon has a surface area of approximately 500 m2 (or about 217 tennis courts). Carbon absorbs organic compounds which produce taste, odor, color or toxicity and reduces free chlorine.

Anthracite

The coal is cleaned (reduction in ash content), screened and classified to the proper sizes for water filtration purposes. Advantages: Versus silica and quarts sands and gravels are longer runs between backwashes, higher flow rates without headloss, lower backwash water pressures and/or quantities, a greater utilization of the bed mass for filtration, and a volumetric higher surface area.

Garnet

A naturally hard, durable, high specific gravity mineral. Resistance to attrition means less loss of media and shutdown time. High specific gravity means more control during backwash and lower losses to drain. The angular shape provides more ability to filter and longer production runs.

Manganese Greensand

Black nodular granules of manganese-coated natural greensands – used for removing soluble iron and/or manganese as well as hydrogen sulfide. It must be either continuously or periodically regenerated with potassium permanganate.

Gravel

Gravel is used as a support to keep smaller media out of the distribution system and to stop channelling of water. Minimum layers of 3” per size is suggested.

Birm®

Birm® is an efficient and economical media for the reduction of dissolved iron and manganese compounds from raw water supplies. It may be used in either gravity fed or pressurized water treatment systems. Birm acts as an insoluble catalyst to enhance the reaction between dissolved oxygen and the iron compounds. In ground waters, the dissolved iron is usually in the ferrous bicarbonate state due to the excess of free carbon dioxide and is not filterable. Birm, acting as a catalyst between the oxygen and the soluble iron compounds, enhances the oxidation reaction of Fe++ to Fe+++ and produces ferric hydroxide which precipitates and may be easily filtered.

The physical characteristics of Birm provide an excellent filter media which is easily cleaned by backwashing to remove the precipitant. Birm is not consumed in the iron removal operation and therefore offers a tremendous economic advantage over many other iron removal methods.

Calcium Carbonate (also known as Calcite)

Acidic waters on contact slowly dissolve the calcium carbonate media to raise the pH which reduces the potential leaching of copper, lead and other metals found in typical plumbing systems. Periodic backwashing will prevent packing and maintain high service rates.

Depending on pH and service flow the bed will have to be periodically added to as the dissolved calcium carbonate depletes. As the calcium carbonate neutralizes the water, it will increase hardness and a softener may become necessary after the neutralizing filter.

Filter Ag®

Advantages: Less pressure loss than through most other media. Light weight requires lower backwash rates. High service rates. High dirt removal capacity. Reduced shipping cost due to light weight/cu.ft.



## MEDIA



Item Number	Description	U of M	Weight
31501	Anthrafilt #1	BG	52
33016	Birm, 1 CF	BG	36
32376	Calcite, 50 pound bag, 90#/CF	BG	50
22018	Carbon Centaur, 12 x 40, 1 CF Bag	BG	33
30404-2	Carbon, Coconut Shell 12X40, 1CF Bag	BG	27.5
25006	Carbon, Hydrodarco 3000, 1240, 1.66 CF Bag	BG	40
22022C	Carbon, Jacobi Aquasorb CS LF, 12 X 40, 1 cu ft	BG	27.5
30401C	Carbon, Jacobi Aquasorb CS LF, 20 X 50, 1 cu ft	BG	27.5
22018C	Carbon, Jacobi Aquasorb CX MCA, 12 X 40, 1 cu ft	BG	27.5
22023C	Carbon, Jacobi Aquasorb HS LF, 12 X 40, 1 cu ft	BG	27.5
32380	Corosex, 50 pound bag, 75#/CF	BG	50
22502	Garnet 30X40 50# bag, 130 #/CF	BG	50
22503	Garnet 8X12 50# bag, 140#/CF	BG	50
22003	Gravel, 1/2 x 1/4	BG	100
22002	Gravel, 1/4 x 1/8	BG	100
22001	Gravel, 1/8 x 1/16	BG	100
22006	Gravel, 3/4 x 1/2	BG	100
52000	Greensand Plus, 1/2 Cubic foot bag	BG	85
22510	Nexsand 1 CF	BG	52
21494	Resin, Anion A850	BG	43
21491	Resin, Anion A860	BG	43
21486	Resin, Anion, A300	BG	43
21502	Resin, Aquafine 8% Cation	BG	52
21501	Resin, Cation, C100E	BG	52
21499	Resin, Cation, C100EFM	BG	52
21510	Resin, Cation, C150E	BG	52
21512	Resin, SSTC 60	BG	50
22004	Sand, 0.45 x 0.55	BG	100

## HACH TEST KITS



#202300



#49018



#66751



#4918370



**NEW Dealer Combination Kit – Hardness, iron, sulphur, pH, Manganese, TDS**  
#49016

Item #	Description
49145300	5B HARDNESS KIT - 0-30 GPG
301227	BUFFER SOLUTION HARDNESS 3 ,100 ML MDB 42432
49225401	CN65 TOTAL/FREE CHLORINE KIT
492060300	DPD FREE CHLORINE PP 5ML PK/100.,14077-99
492060400	DPD TOTAL CHLORINE PP 5ML PK/100. 14076-99
49183701	HA62A HARDNESS, IRON, pH KIT
301228	HARDNESS 2 TEST SOLUTION,100 ML MDB 42532
301226	HARDNESS 3 TEST SOLUTION,100 ML MDB
49018	HS-C HYDROGEN SULPHIDE KIT (0 - 5 MG/L)
66751	METER TDS MYRON L 0-5000 PPM 512M5
49146700	MN5 MANGANESE (0-3 MG/L) KIT
80050020	PAPER, HYDROGEN SULFIDE 100
66761	PH/TEMP METER, pH-200, 0-14 pH
80050007	PH/TEMP WATERPROOF HYDRO TESTER, PH-80
4998366	PILLOW, BUFFER CITRATE POWDER PK/100
301233	PILLOW, FERROUS IRON REAGENT POWDER PK/100
4985199	PILLOW, HARDNESS INDICATOR POWDER PK/100 Manver 2
4998499	PILLOW, SODIUM PERIODATE POWDER PK/100
33004	SOAP TEST KIT
4942411	SOLUTION, HARDNESS 1, 500 ML
4942511	SOLUTION, HARDNESS 2, 500 ML
4942616	SOLUTION, HARDNESS 3, 500 ML
49193701	TA3 TANNIN - LIGNIN KIT
49022	TABLETS, ALKASELTZER 36
80050008	TDS-4 POCKET SIZE METER, HM DIGITAL
49016	TEST KIT COMBINATION DEALER 2496101
202300	TEST KIT, HA-77 HARDNESS & IRON
80050052	UNIVER 3 POWDER 28.3 GRAMS 213-20H
301518	UNIVER 3 POWDER PILLOWS,PK/100
80050038	WIDE RANGE 4 pH SOLUTION



**#49145300 hach 5b hardness test Kit 1 – 30 gpg**  
Trust the original Hach test kit! Simple drop count Titration measures hardness as CaCo3 (1 gpg = 17.1 mg / l). 100 tests.



SPECTRUM TEST KITS (U.S. ONLY)



	Basic	Standard	Deluxe
Components	2403	2401	2404
Sturdy Plastic Case	X	X	X
Hardness Test	X	X	X
Iron Test		X	X
pH Test		X	X
Chlorine test			X
TDS Meter			X

REPLACEMENT SOLUTION CROSS REFERENCE CHART

	Basic	Standard	Deluxe
Solutions	2403	2401	2404
Hardness #1 Solution 2 oz. & 16 oz. Refill	X	X	
Hardness #2 Solution 2 oz. & 16 oz. Refill	X	X	
Hardness #3 Solution 2 oz. & 16 oz. Refill	X	X	
Hardness #1 Solution 1/2 oz. & 16 oz. Refill			X
Hardness #2 Solution 1/2 oz. & 16 oz. Refill			X
Hardness #3 Solution 1/2 oz. & 16 oz. Refill			X
Iron Reagent Foil Pack, 5ml 50 pack & 100 pack		X	X
pH Solution Wide Range 1 oz. & 16 oz. Refill		X	
pH Solution Wide Range 1/2 oz. & 16 oz. Refill			X
Chlorine Indicator Solution(OTO) 1/2 oz. & 16 oz. Refill			X



Deluxe Kit Hardness, Iron, pH, Chlorine & TDS



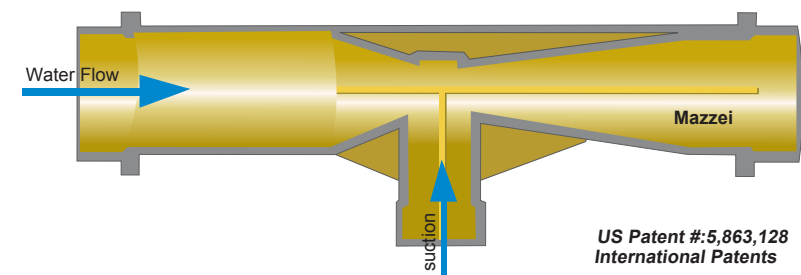
Basic Kit Hardness



Standard Kit Hardness, Iron, pH & Chlorine

MAZZEI INJECTORS

Mazzei® Injectors are high-efficiency, venturi-type, differential pressure injectors with internal mixing vanes. When a sufficient pressure difference exists between the inlet and outlet ports of the injector, a vacuum is created inside the injector body, which initiates suction of a liquid or gas through the suction port.



Item #	Description
80040001	Injector, Mazzei, 384-PP, ½" Inlet / Outlet
80040002	Injector, Mazzei, 484A-PP, ¾" Inlet / Outlet
80040003	Injector, Mazzei, Bypass Kit 384-PP, ½" Inlet / Outlet
80040004	Injector, Mazzei, Bypass Kit 484A-PP, ¾" Inlet / Outlet

How a Mazzei® Injector Works

When pressurized water enters the injector inlet, it is constricted toward the injection chamber and changes into a high-velocity jet stream. The increase in velocity through the injection chamber results in a decrease in pressure, thereby enabling an additive material to be drawn through the suction port and entrained into the water stream. As the jet stream is diffused toward the injector outlet, its velocity is reduced and it is reconverted into pressure energy (but at a pressure lower than injector inlet pressure).

Mazzei® Injectors are extremely efficient. They operate over a wide range of pressures and require only a minimal pressure differential between the inlet and outlet sides to initiate a vacuum at the suction port.

Mattson / Witt K7225 Eductor

Used for iron removal - the K7225 Eductor is used in combination with an aeration tank and a backwashable filter containing special media adds a controlled amount of air to the water supply just before it enters the aeration tank. As the water sprays into the aeration tank it picks up more air. The oxygen in the air starts the natural iron removal process by oxidizing the iron and causing it to come out of solution. The iron can then be more easily filtered.



Description
Eductor PVC 1" FXF 0-15 GPM Single Port



TUBING & FITTINGS (JOHN GUEST QUICK CONNECT)

Polypropylene Fittings

The PP Range of inch-size push-in fittings is offered for tube sizes 1/4" O.D. to 1/2" O.D. The fittings are manufactured in white polypropylene with food grade EPDM O-rings. They have been developed to satisfy the compatibility needs for a wide range of applications.

Working Pressures and Temperatures

Water Max. 150 psi at 70°F (Max. 10 Bar at 20°C)

Max. 60 psi at 140°F (Max. 4 Bar at 60°C)

Min. 33°F/1°C



Polypropylene Shut-Of Valve

The PPSV Range of Shut-Off Valve is offered for tube sizes ¼" O.D. and 3/8" O.D., produced in polypropylene and fitted with EPDM O-rings. Polypropylene has the advantage of being more chemically resistant than acetal. The valves are for use with potable water. For use with other potable liquids please contact our Technical Support Department for guidance. The valves are not to be used with compressed air, explosive gases, petroleum spirits and other fuels or for heating systems.



Working Pressures and Temperatures

Water Max. 150 psi at 70°F (Max. 10 bar at 20°C)

Max. 60 psi at 140°F (Max. 4 bar at 60°C)

Min. 33°F/1°C



Polypropylene Fittings

The John Guest PE Range of plastic tubing is produced in Linear Low Density Polyethylene for cold and intermittent hot water applications. Our tubing is made from FDA compliant materials and is NSF International Standard 51 & 61 certified. John Guest LLDPE Tubing provides excellent resistance to environmental stress cracking as measured by ASTM D-1693 (10% IGEPAL). John Guest Polyethylene tubing is designed for use with John Guest Super Speedfit push-in fittings, John Guest Shut-Off Valves and virtually all standard tubing connectors.

TUBING & FITTINGS (JOHN GUEST QUICK CONNECT)

Part #	Model Description
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Male Connector - NPTF Thread



CI010821W	1/4" X 1/8"-WHITE, (10 Pack)
CI010822W	1/4" X 1/4"-WHITE, (10 Pack)
CI010823W	1/4" X 3/8"-WHITE, (10 Pack)
CI011222W	3/8" X 1/4"-WHITE, (10 Pack)
PI010821S	1/4" X 1/8", (10 Pack)
PI010822S	1/4" X 1/4", (10 Pack)
PI010823S	1/4" X 3/8", (10 Pack)
PI011221S	3/8" X 1/8", (10 Pack)
PI011222S	3/8" X 1/4", (10 Pack)
PI011223S	3/8" X 3/8", (10 Pack)
PI011224S	3/8" X 1/2", (10 Pack)
PI011623S	1/2" X 3/8", (10 Pack)
PI011624S	1/2" X 1/2", (10 Pack)
PI012026S	5/8" X 3/4", (10 Pack)
PP010822W	/4" X 1/4"-WHITE, (10 Pack)
PP010823W	1/4" X 3/8"-WHITE, (10 Pack)
PP011222W	3/8" X 1/4"-WHITE, (10 Pack)
PP011223W	3/8" X 3/8", (10 Pack)
PP011224W	3/8" X 1/2", (10 Pack)
PP011623W	1/2" X 3/8", (10 Pack)
PP011624W	1/2" X 1/2", (10 Pack)

Male Connector - Flare Male Connector (tube X thread)



PI0108F4S	1/4" X 1/4", (10 Pack)
PI0112F4S	3/8" X 1/4", (10 Pack)
PI0112F6S	3/8" X 3/8", (10 Pack)
PI0112F8S	3/8" X 1/2", (10 Pack)
PI0116F8S	1/2" X 1/2", (10 Pack)

Union Tee (for use when branching of - RO faucets & tanks )



CI0208W	1/4" - WHITE, (10 Pack)
CI0212W	3/8" - WHITE, (10 Pack)
PI0208S	1/4", (10 Pack)
PI0212S	3/8", (10 Pack)
PI0216S	1/2", (10 Pack)
PP0208W	1/4", (10 Pack)
PP0212W	3/8", (10 Pack)

Reducing Tee (tube x tube x branch )



PI301208S	3/8" X 3/8" X 1/4", (10 Pack)
PI301612S	1/2" X 1/2" X 3/8", (10 Pack)
PP30121208W	3/8" X 3/8" X 1/4", (10 Pack)
PP301612W	1/2" X 1/2" X 3/8", (10 Pack)

Union Elbow (tube)



CI0308W	1/4" - WHITE, (10 Pack)
CI0312W	3/8" - WHITE, (10 Pack)
PI0308S	1/4", (10 Pack)
PI0312S	3/8", (10 Pack)
PI0316S	1/2", (10 Pack)
PP0308W	1/4", (10 Pack)
PP0312W	3/8", (10 Pack)
PP0316W	1/2", (10 Pack)

Fixed Elbow (NPTF Thread - tube X thread)



CI480821W	1/4" X 1/8" - WHITE, (10 Pack)
CI480822W	1/4" X 1/4" - WHITE, (10 Pack)
CI480823W	1/4" X 3/8" - WHITE, (10 Pack)
CI481222W	3/8" X 1/4" - WHITE, (10 Pack)
PI480821S	1/4" X 1/8", (10 Pack)
PI480822S	1/4" X 1/4", (10 Pack)

PI480823S	1/4" X 3/8", (10 Pack)
PI481222S	3/8" X 1/4", (10 Pack)
PI481223S	3/8" X 3/8", (10 Pack)
PI482024S	5/8" X 1/2", (10 Pack)
PP480821W	1/4" X 1/8", (10 Pack)
PP480822W	1/4" X 1/4", (10 Pack)
PP480823W	1/4" X 3/8", (10 Pack)
PP481222W	3/8" X 1/4", (10 Pack)
PP481223W	3/8" X 3/8", (10 Pack)

Reducing Elbow (tube X tube)



PI211208S	3/8" X 1/4", (10 Pack)
PI211612S	1/2" X 3/8", (10 Pack)
PP211208W	3/8" X 1/4", (10 Pack)
PP211612W	1/2" X 3/8", (10 Pack)

Plug In/Stem Elbow (stem X tube)



CI220808W	1/4" X 1/4" - WHITE, (10 Pack)
CI221208W	3/8" X 1/4" - WHITE, (10 Pack)
CI221212W	3/8" X 3/8" - WHITE, (10 Pack)
PI220808S	1/4" X 1/4", (10 Pack)
PI221208S	3/8" X 1/4", (10 Pack)
PI221212S	3/8" X 3/8", (10 Pack)
PI221616S	1/2" X 1/2", (10 Pack)
PP220808W	1/4" X 1/4", (10 Pack)
PP221208W	3/8" X 1/4", (10 Pack)
PP221212W	3/8" X 3/8", (10 Pack)
PP221616W	1/2" X 1/2", (10 Pack)



TUBING & FITTINGS (JOHN GUEST QUICK CONNECT)

Union Connector(tube X tube)



CIO408W	1/4" - WHITE, (10 Pack)
CIO412W	3/8" - WHITE, (10 Pack)
PIO408S	1/4", (10 Pack)
PIO412S	3/8", (10 Pack)
PIO416S	1/2", (10 Pack)
PP0408W	1/4", (10 Pack)
PP0412W	3/8", (10 Pack)
PP0416W	1/2", (10 Pack)

Reducing Union (union X tube X tube)



PI201208S	3/8" X 1/4", (10 Pack)
PI201612S	1/2" X 3/8", (10 Pack)
PP201208W	3/8" X 1/4", (10 Pack)
PP201612W	1/2" X 3/8", (10 Pack)

Stem Adaptor (NPTF Thread - stem X thread)



CIO50821W	1/4" X 1/8" - WHITE, (10 Pack)
CIO50822W	1/4" X 1/4" - WHITE, (10 Pack)
CIO51222W	3/8" X 1/4" - WHITE, (10 Pack)
CIO51223W	3/8" X 3/8" - WHITE, (10 Pack)
PIO50821S	1/4" X 1/8", (10 Pack)
PIO50822S	1/4" X 1/4", (10 Pack)
PIO51222S	3/8" X 1/4", (10 Pack)
PIO51223S	3/8" X 3/8", (10 Pack)
PIO51623S	1/2" X 3/8", (10 Pack)
PIO51624S	1/2" X 1/2", (10 Pack)
PP050821W	1/4" X 1/8", (10 Pack)
PP050822W	1/4" X 1/4", (10 Pack)
PP051222W	3/8" X 1/4", (10 Pack)
PP051223W	3/8" X 3/8", (10 Pack)
PP051623W	1/2" X 3/8", (10 Pack)
PP051624W	1/2" X 1/2", (10 Pack)

Stem Reducer (stem X thread)



CIO61208W	3/8" X 1/4" - WHITE, (10 Pack)
PIO61208S	3/8" X 1/4", (10 Pack)
PIO61612S	1/2" X 3/8", (10 Pack)
PP061208W	3/8" X 1/4", (10 Pack)
PP061612W	1/2" X 3/8", (10 Pack)

Bulkhead Union (tube X mounting hole diameter)



CI1208W	1/4" - 0.67 - WHITE, (10 Pack)
PI1208S	1/4" - 0.67, (10 Pack)
PI1212S	3/8" - 0.83, (10 Pack)
PI1216S	1/2" - 1.06, (10 Pack)
PP1208W	1/4" - 0.67, (10 Pack)
PP1212W	3/8" - 0.83, (10 Pack)

PP1216W	1/2" - 1.06, (10 Pack)
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Reducing Bulkhead Union (tube X tube X mounting hole diameter)



PI121208S	3/8" X 1/4" - 0.83, (10 Pack)
PP121208W	3/8" X 1/4" - 0.83, (10 Pack)

Faucet Connector UNS Thread (tube X thread)



CI3208U7S	1/4" X 7/16", (10 Pack)
CI3212U7S	3/8" X 7/16", (10 Pack)
PP3208U7W	1/4" X 7/16", (10 Pack)
PP3212U7W	3/8" X 7/16", (10 Pack)

Stem to Hose Barb (stem X hose barb)



PI250808S	1/4" X 1/4", (10 Pack)
PI251208S	3/8" X 1/4", (10 Pack)
PI251212S	3/8" X 3/8", (10 Pack)
PI251216S	3/8" X 1/2", (10 Pack)
PP251212W	3/8" X 3/8", (10 Pack)
PP251216W	3/8" X 1/2", (10 Pack)
PP251612W	1/2" X 3/8", (10 Pack)
PP251616W	1/2" X 1/2", (10 Pack)

Stem to Hose Barb Long Version (stem X hose barb)



PI251212SL	3/8" X 3/8", (10 Pack)
PI290808S	1/4" X 1/4", (10 Pack)
PI291208S	3/8" X 1/4", (10 Pack)

Female Connector NPTF Thread (tube X thread)



PI450822S	1/4" X 1/4", (10 Pack)
PI451222S	3/8" X 1/4", (10 Pack)
PP450822W	1/4" X 1/4", (10 Pack)
PP451222W	3/8" X 1/4", (10 Pack)

Female Flare Connector FFL (tube X thread)



PI4512F4S	3/8" X 1/4", (10 Pack)
PI4512F6S	3/8" X 3/8", (10 Pack)

Plug (stem)

PI0808S	1/4", (10 Pack)
PI0812S	3/8", (10 Pack)
PI0816S	1/2", (10 Pack)
PP0808W	1/4", (10 Pack)
PP0812W	3/8", (10 Pack)
PP0816W	1/2", (10 Pack)

End Stop (tube)



PI4608S	1/4", (10 Pack)
PI4612S	3/8", (10 Pack)

TUBING & FITTINGS (JOHN GUEST QUICK CONNECT)

Cross (tube)



PI4712S	3/8", (10 Pack)
PI2312S	3/8", (10 Pack)
PP2312W	3/8", (10 Pack)

Locking Clip (tube)



PIC1808R	1/4", (10 Pack)
PIC1812R	3/8", (10 Pack)

Collets (tube)



CP-C081-DG	JG 1/4" COLLET - GREY, (10 Pack)
CP-C121-DG	JG 3/8" COLLET - GREY, (10 Pack)
CP-C161-DG	JG 1/2" COLLET - GREY, (10 Pack)

Tube Cutter



TSNIP	TUBE CUTTER,
JG-TS	TUBE CUTTER (up to 22mm),

Tank Ball Valves



PPSV500822W	1/4" JG X 1/4" FEMALE NPTF ELBOW,
PPSV501222W	3/8" JG X 1/4" FEMALE NPTF ELBOW,

Inline Ball Valves



PPSV040808W	1/4" JG X 1/4" JG STRAIGHT VALVE,
PPSV041212W	3/8" JG X 3/8" JG STRAIGHT VALVE,
PPSV010822W	1/4" MIP X 1/4" JG STRAIGHT VALVE,
PPSV011223W	3/8" MIP X 3/8" JG STRAIGHT VALVE,
PISV0416S	/2" JG X 1/2" JG STRAIGHT VALVE,

Angle Stop Adaptor Valve 3/8"



ASVPP1	JG 3/8 MCTx3/8FCTx1/4JG,
ASVPP2	JG 3/8MCTx3/8FCTx3/8JG,

Check Valves - Inline



1/4SCV	1/4" JG,
3/8SCV	3/8" JG,

PE Tubing - 1/4" 500 feet - 2 rolls per box



PE-08-BI-0500F-B	BLUE, Comes per box
PE-08-BI-0500F-E	BLACK, Comes per box
PE-08-BI-0500F-G	GREEN, Comes per box
PE-08-BI-0500F-N	NATURAL, Comes per box
PE-08-BI-0500F-O	ORANGE, Comes per box
PE-08-BI-0500F-R	RED, Comes per box
PE-08-BI-0500F-V	VIOLET, Comes per box
PE-08-BI-0500F-W	WHITE, Comes per box
PE-08-BI-0500F-Y	YELLOW, Comes per box

PE Tubing - 3/8" 500 feet

PE-12-EI-0500F-B	BLUE, Comes per box
PE-12-EI-0500F-E	BLACK, Comes per box
PE-12-EI-0500F-G	GREEN, Comes per box
PE-12-EI-0500F-N	NATURAL, Comes per box
PE-12-EI-0500F-O	ORANGE, Comes per box
PE-12-EI-0500F-R	RED, Comes per box
PE-12-EI-0500F-V	VIOLET, Comes per box
PE-12-EI-0500F-W	WHITE, Comes per box

PE Tubing - 1/2" 250 feet

PE-16-GI-0250F-B	BLUE, Comes per box
PE-16-GI-0250F-E	BLACK, Comes per box
PE-16-GI-0250F-N	NATURAL, Comes per box
PE-16-GI-0250F-R	RED, Comes per box

CTS PEX Tubing - 1/2" 100 feet

US1/2PEX-100F-B	BLUE, Comes per box
US1/2PEX-100F-R	RED, Comes per box
US1/2PEX-100F-W	WHITE, Comes per box

CTS PEX Tubing - 3/4" 100 feet



US3/4PEX-100F-B	BLUE, Comes per box
US3/4PEX-100F-R	RED, Comes per box
US3/4PEX-100F-W	WHITE, Comes per box

PEX Union Elbow



PE10328	PEX Union Elbow 3/4", CTS,
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PEX Coupler



PEI0420	PEX Coupler, 1/2" CTS,
PEI0428	PEX Coupler, 3/4" CTS,
PEI0436	PEX Coupler, 1" CTS,





PEX Reducer Coupling























PEI062820	PEX Reducer, 3/4" Stem - 1/2" Pipe,
PEI063628	PEX Reducer, 1" Stem - 3/4" Pipe,



TUBING & FITTINGS (JOHN GUEST QUICK CONNECT)

PEI202820	3/4 x 1/2 Reducing Coupler,
PEX Plug-in Elbow	
	
PEI222020	PEX Plug-In Elbow, 1/2" Stem - 1/2" Pipe,
PEI222828	PEX Plug-In Elbow, 3/4" Stem - 3/4" Pipe,
PEX Reducing Tee	
	
PEI3028A	PEX Reducing Tee 3/4" x 3/4" x 1/2" CTS,
PEI3028B	PEX Reducing Tee 3/4" x 1/2" x 1/2" CTS,
PEI3028C	PEX Reducing Tee 1/2" x 1/2" x 3/4" CTS,
PEI3028D	PEX Reducing Tee 3/4" x 1/2" x 3/4" CTS,
PEX Stackable Tee	
	
PEI532020	PEX Stackable Tee 1/2" CTS x 1/2" Stem x 1/2" CTS
PEI532820	PEX Stackable Tee 3/4" CTS x 3/4" Stem x 1/2" CTS
PEI532828	PEX Stackable Tee 3/4" CTS x 3/4" Stem x 3/4" CTS
PEX Miscellaneous	
	
PEIBTC2034	PEX Female Swivel Elbow, 1/2" CTS x 1/2" NPS
PEIBTC20C75	PEX Female Ballcock Elbow, 1/2" CTS x 7/8"-15/16 UNS
PEISTC2034	PEX Female Swivel Connector, 1/2" CTS x 1/2" NPS
PEISTC20C75	PEX Female Ballcock Connector, 1/2" CTS x 7/8"-15/16 UNS

MARKETING MATERIALS

NOVO 2015 LITERATURE ORDER FORM							
Catalog & Consumer Trifolds							
	Item #	Description	Quantity		Item #	Description	Quantity
	80151000	2015 Catalog			80151021	Drinking Water Solutions (50/pack)	
	8015020	Soft Water Solutions (50/pack)			80151022	Point-of-Use Filter Solutions (50/pack)	
	80151023	Problem Water Solutions (50/pack)			80151027	Eco Smart Softeners (50/pack)	
Pipe Hangers & Sizing Guide							
	Item #	Description	Quantity		Item #	Description	Quantity
	80151033	Carbon Pipe Hangers (50/pack)			80151030	"Protect Your Biggest Investment" Pipe Hangers (50/pack)	
	80155017	Sizing Guide					
Posters/Banners							
	Item #	Description	Quantity		Item #	Description	Quantity
	80155018	Novo Showroom Poster (22x28)			80155025	Trifold Counter Stand	
	80155016	Novo Vinyl Banner (2x4)			8016000	Showroom Display (\$195.00)	
	80051105	Water Sample Kit (Mailing Tube, Bottle & Instruction)					
Novo ProAdvantage							
	Item #	Description	Quantity		Item #	Description	Quantity
	80155021	ProAdvantage Program Overview Brochure			80155019	Protect Your Biggest Investment Homeshow Vinyl Banner (2'x4')	
	48151026	"Protect Your Biggest Investment" 485HE Softener (50/pack)			80155020	Protect Your Biggest Investment Poster (22x28)	
	80151029	"Your Hardness Is" Sticker with Novo Help Line			80155023	Vehicle Decal (12x14)	
	80155022	Novo ProAdvantage Shirt Decal			80155024	Window Static Cling Decal (6x7)	
<div>Company Name: _____ Contact Name: _____</div> <div>City, Province/S _____</div> <div>Mailing Address: _____ tate: _____ Postal Code/Zip: _____</div> <div>Telephone #: _____ Fax #: _____</div> <div>Email Address: _____</div>							
1-877-655-6686 OR SUPPORT@NOVOWATER.COM							



# WATER CONDITIONING GLOSSARY

**Absorption** - The process in which one substance is taken into the body of another substance, termed the absorbent. An example is the absorption of water into soil.

**Acid** - A substance which releases hydrogen ions when dissolved in water. Most acids will dissolve the common metals and will react with a base to form a neutral salt and water.

**Activated Carbon** - A granular material usually produced by the roasting of cellulose base substances, such as wood or coconut shells, in the absence of air. It has a very porous structure and is used in water conditioning as an adsorbent of organic matter and certain dissolved gases. Sometimes called “activated charcoal.”

**Adsorption** - The process in which matter adheres to the surface of the adsorbent.

**Aeration** - The process in which air is brought into intimate contact with water, often by spraying water through air or by bubbling air through water. Aeration may be used to add oxygen to the water for oxidation of matter such as iron or to cause the release of dissolved gases such as carbon dioxide or hydrogen sulfide from the water.

**Alkalinity** - The quantitative capacity of a water or water solution to neutralize an acid. It is usually measured by titration with a standard acid solution of sulfuric acid and expressed in terms of its calcium carbonate equivalent.

**Anion** - A negatively charged ion in solution such as bicarbonate, chloride or sulfate.

**Anion Exchange** - An ion exchange process in which anions in solution are exchanged for other anions from an ion exchanger. In demineralization, for example, bicarbonate, chloride and sulfate anions are removed from solution in exchange for a chemically equivalent number of hydroxide anions from the anion exchange resin.

**Aquifer** - A layer or zone below the surface of the earth which is capable of yielding a significant volume of water. Atom - The smallest particle of an element that can exist either alone or in combination with smaller particles of the same element or of a different element.

**Attrition** - The process in which solids are worn down or ground down by friction, often between particles of the same material. Filter media and ion exchange materials are subject to attrition during backwashing, regeneration and service.

**Backwash** - The process in which beds of filter or ion exchange media are subjected to flow opposite to service flow direction to loosen the bed and to flush suspended matter collected during the service run to waste. Bacteria - Unicellular micro-organisms which typically reproduce by cell division. Although usually classed as plants, bacteria contain no chlorophyll.

**Bacteriostatic** - A feature of a carbon filter that is supposed to inhibit the growth of bacteria within the filter - usually by the addition of silver.

**Base** - A substance which releases hydroxyl ions when dissolved in water. Bases react with acids to form a neutral salt and water.

**Bed** - The ion exchange or filter media in a column or other tank or operational vessel.

**Bed Depth** - The height of the ion exchange or filter media in the vessel after preparation for service.

**Boiling Point** - The temperature at which a substance will change from a liquid state to a gaseous or vapor state.

**Brackish Water** - Water containing between 1000 and 1500 mg/l of dissolved solids is generally considered to be brackish.

**Brine (R.O.)** - Same as reject water. One of two streams of fluids generated by a reverse osmosis unit. It contains the impurities removed from the feed water.

**Brine (Softening)** - A strong solution of salt(s), such as sodium chloride, and water used in the regeneration of ion exchange water softeners but also applied to the mixed sodium, calcium and magnesium chloride waste solution from regeneration.

**Calcium (Ca)** - One of the principal elements making up the earth’s crust, the compounds of which, when dissolved, make the water hard. The presence of calcium in water is a factor contributing to the formation of scale and insoluble soap curds which are a means of clearly identifying hard water.

**Calcium Hypochlorite (CaCl2O2)** - A chemical compound used as a bleach and a source of chlorine water treatment; specifically useful because it is stable as a dry powder and can be formed into tablets.

**Capacity** - An expression of the quantity of an undesirable material which can be removed by a water conditioner between servicing of the media (i.e. cleaning, regeneration or replacement) as determined under standard test conditions. For ion exchange water softeners, the capacity is expressed in grains of hardness removal between successive regenerations and is related to the pounds of salt used in regeneration. For filters, the capacity may be expressed in the length of time or total gallons delivered between servicing.

**Caustic Soda** - The common name for sodium hydroxide.

**Cation** - An ion with a positive electrical charge, such as calcium, magnesium and sodium.

**Cation Exchange** - Ion exchange process in which cations in solution are exchanged for other cations from an ion exchanger.

**Cellulose Acetate (CA) and Cellulose Triacetate (CTA)** - A family of synthetic materials based on cellulose used to make reverse osmosis membranes. While CTA is superior to CA, under adverse water conditions both are effective in removing a wide spectrum of impurities from water. The disadvantage of cellulose-type membranes is that they are subject to bacterial attack, particularly in unchlorinated water supplies. CTA has superior bacterial resistance.

# WATER CONDITIONING GLOSSARY

**Channeling** - The flow of water or other solution in a limited number of passages in a filter or ion exchange bed instead of distributed flow through all passages in the bed.

**Chloramines** - Chemical complexes formed from the reaction between ammonia and chlorine. They are presently being used to disinfect municipal water supplies because, unlike chlorine, they do not combine with organics in the water to form potentially dangerous carcinogens such as trihalomethanes (THMs). Chloramines can exist in three forms, the proportions of which depend on the physical and chemical properties of the water. Water containing chloramines may not be used for fish or kidney dialysis equipment.

**Chlorides (Cl)** - an ion which forms acids when combined with hydrogen and salts when combined with metal ions. Chlorides can be corrosive and impart a salty taste to water.

**Chlorine (Cl2)** - A gas widely used in the disinfection of water and an oxidizing agent for organic matter, iron, etc.

**Coagulant** - A material, such as alum, which will form a gelatinous precipitate in water and cause the agglomeration of finely divided particles into larger particles which can then be removed by settling and/or filtration.

**Colloid** - Very finely divided solid particles which will not settle out of a solution; intermediate between a true dissolved particle and a suspended solid which will settle out of solution. The removal of colloidal particles usually requires coagulation to form larger particles which may be removed by sedimentation and/or filtration.

**Compensated Hardness** - A calculated value based on the total hardness - the magnesium to calcium ratio and the sodium concentration of a water. It is used to correct for the reductions in hardness removal capacity caused by these factors in cation exchange water softeners. No single method of calculation has been widely accepted.

**Conductivity** - The quality or power to carry electrical current. In water, the conductivity is related to the concentration of ions capable of carrying electrical current.

**Contact Time** - The length of time water is in direct contact with activated carbon (R.O.) or chlorine (chlorination system.) This is a major factor in determining how effectively impurities will be removed.

**Corrosion** - The destructive disintegration of a metal by electrochemical means.

**Cycle Time** - The amount of time in seconds elapsed between pump start and pump shut-down.

**Dechlorination** - The removal of excess chlorine residual, often after super-chlorination.

**Deionization (DI)** - The removal of all ionized minerals and salts (both organic and inorganic) from a solution by a two-phase ion exchange procedure. First, positively charged ions are exchanged for a chemically equivalent amount of hydrogen ions. Second, negatively charged

ions are removed by an ion exchange resin for a chemically equivalent amount of hydrogen ions. The hydrogen and hydroxide ions introduced in this process unite to form water molecules. The term is often used interchangeably with demineralization.

**Disinfection** - A process in which pathogenic, disease producing bacteria are killed. May involve disinfecting agents such as chlorine or physical processes such as heating.

**Dissolved Solids** - The weight of matter in true solution in a stated volume of water. Includes both inorganic and organic matter and is usually determined by weighing the residue after evaporation of the water at 105°F or 180°C.

**Distillation** - The process in which a liquid, such as water, is converted into its vapor state by heating and the vapor cooled and condensed to the liquid state and collected. Used to remove solids and other impurities from water. Multiple distillations are required for extreme purity. DNA - Deoxyribonucleic acid constituting the genetic material of the chromosome in a cell, responsible for reproductive characteristics.

**Drawdown** - The amount of water delivered by the storage tank between pump shut-down and pump start.

**E Coli (Escherichia Coli)** - One of the members of the coliform group of bacteria indicating fecal contamination.

**Effluent** - The stream emerging from a unit, system or process such as the softened water from an ion exchange softener.

**Exhaustion** - The state of an ion exchange material in which it is no longer capable of effective function due to the depletion of the initial supply of exchangeable ions. The exhaustion point may be defined in terms of a limiting concentration of matter in the effluent or, in the case of demineralization, in terms of electrical conductivity.

**Fecal** - Matter containing or derived from animal or human waste.

**Feed Pressure** - The pressure at which water is supplied to the R.O. module.

**Feed Water** - A term which refers to the water supply that is put into a water treatment system for processing (removal of impurities.)

**Flocculation** - The agglomeration of finely divided suspended solids into larger, usually gelatinous, particles. The development of a ‘floc’ after treatment with a coagulant by gentle stirring or mixing.

**Flow Control** - A device designed to limit the flow of water or regenerant to a predetermined value over a broad range of inlet water pressures.

**Flow Rate** - The quantity of water or regenerant which passes a given point in a specified unit of time, often expressed in gallons per minute.

**Flux** - The flow rate of water through reverse osmosis membranes, per square foot of surface.

**Fouling** - The process in which undesirable foreign matter accumulates in a bed of filter media or ion exchanger,



# WATER CONDITIONING GLOSSARY

clogging pores and coating surfaces and thus inhibiting or retarding the proper operation of the bed.

**Freeboard** - The vertical distance between a bed of filter media or ion exchange material and the overflow or collector for backwash water. The height above the bed of granular media available for bed expansion during backwashing. May be expressed either as a linear distance or a percentage of bed depth.

**Grain (gr)** - A unit of weight equal to 1/7000 of a pound or 0.0648 gram.

**Grain per Gallon (gpg)** - A common basis for reporting water analysis in the United States and Canada. One grain per U.S. gallon equals 17.12 milligrams per liter (mg/l) or parts per million (ppm). One grain per British (Imperial) gallon equals 14.3 mg/l or ppm.

**Greensand** - A natural mineral, primarily composed of complex silicates, which can be coated with manganese oxide to form a catalytic absorptive surface. This surface is used to attract ferrous iron and manganese as well as to absorb dissolved oxygen which is used to oxidize iron, manganese or hydrogen sulfide.

**Hardness** - A characteristic of natural water due to the presence of dissolved calcium and magnesium. Water hardness is responsible for most scale formation in pipes and water heaters and forms insoluble “curd” when it reacts with soaps. Hardness is usually expressed in grains per gallon (gpg), parts per million (ppm) or milligrams per liter (mg/l), all as calcium carbonate equivalent.

**Hard Water** - Water with a total hardness of 1 gpg or more as calcium carbonate equivalent.

**Hydrologic Cycle** - The natural water cycle, including precipitation of water from the atmosphere as rain or snow, flow of water over or through the earth and evaporation or transpiration to water vapor in the atmosphere.

**Hydrogen Sulfide (H<sub>2</sub>S)** - A gas characterized by an offensive odor, commonly referred to as “rotten egg” odor. Flammable and poisonous in high concentrations, corrosive to most metals and can even tarnish silver. Detectable by most people in concentrations as low as 0.5 ppm.

**Hydrocharger** - Trade name of a particular type of air induction or injector valve.

**Hydrolysis** - The chemical degradation of an R.O. membrane in water due to certain conditions such as high pH. Cellulose based membranes are quite susceptible to hydrolysis while the TFC type are virtually immune.

**Influent** - The stream entering a unit, stream or process, such as the hard water entering an ion exchange water softener.

**Ion** - An atom, or group of atoms, which function as a unit and have a positive or negative electrical charge due to the gain or loss of one or more electrons.

**Ion Exchange** - A reversible process in which ions are released from an insoluble permanent material in

exchange for other ions in a surrounding solution; the direction of the exchange depends upon the affinities of the ion exchanger for the ions present and the concentrations of the ions in the solution.

**Iron (Fe)** - An element often found dissolved in ground water (in the form of ferrous iron) in concentrations usually ranging from 0-10 ppm (mg/l). It is objectionable in water supplies because of the staining caused after oxidation and precipitation (as ferric hydroxide); because of the tastes; and because of unsightly colors produced when iron reacts with tannins in beverages such as coffee and tea.

**Iron Bacteria** - Organisms which are capable of utilizing ferrous iron, either from the water or from steel pipe in their metabolism and precipitating ferric hydroxide in their sheaths and gelatinous deposits. These organisms tend to collect in pipelines and tanks during periods of low flow and to break loose in slugs of turbid water to create staining, taste and odor problems.

**Magnesium (Mg)** - One of the elements making up the earth’s crust, the compounds of which, when dissolved in water, make the water hard. The presence of magnesium in water is a factor contributing to the formation of scale and insoluble soap curds.

**Manganese (Mn)** - An element sometimes found dissolved in ground water, usually with dissolved iron but in lower concentrations. Causes black stains and other problems similar to iron.

**Manganese Greensand** - Greensand which has been processed to incorporate in its pores and on its surface the higher oxides of manganese. The product has a mild oxidizing power and is often used in the oxidation and precipitation of iron, manganese and/or hydrogen sulfide and their removal from water.

**Mechanical Filtration** - The process of removing suspended particles from water by a straining action. The finest mechanical filters can remove bacteria as small as 0.2 microns.

**Media** - The selected materials in a filter that form the barrier to the passage of certain suspended solids or dissolved minerals. (Singular of media is medium).

**Milligrams per Liter (mg/l)** - A unit concentration of matter used in reporting the results of water and wastewater analysis. In dilute water solutions, it is practically equal to parts per million but varies from the ppm in concentrated solutions such as brine. As most analysis are performed on measured volumes of water, the mg/l is a more accurate expression of the concentration and is the preferred unit of measure.

**Micron** - A linear measure equal to one millionth of a meter or .00003937 inch. The symbol for the micron is the Greek letter “μ”.

**Micron Rating** - The term applied to a filter or filter medium to indicate the particle size above which all suspended solids will be removed throughout the rated capacity. As used in industry standards, this is an “absolute” not “nominal” rating. (Refer to S-200, Recommended

# WATER CONDITIONING GLOSSARY

Industry Standards for Household & Commercial Water Filters.)

**Mineral** - A term applied to inorganic substances such as rocks and similar matter found in the earth strata as opposed to organic substances such as plant and animal matter. Minerals normally have definite chemical composition and crystal structure. The term is also applied to matter derived from minerals such as the inorganic ions found in water. The term has been incorrectly applied to ion exchangers, even though most of the modern materials are organic ion exchange resins.

**Mineral Salts** - The form in which minerals from dissolved rock exist in water. Same as Total Dissolved Solids. This is the so-called inorganic form of minerals. In excess, they cause water to have a disagreeable taste. Some are harmful to human health.

**Molecular Weight** - The sum of the atomic weights of the individual atoms (from a periodic chart) that make up a molecule of a particular substance (e.g. H<sub>2</sub>O) H=1 atomic weight, O=16 atomic weight, therefore, molecular weight = 2 + 16 = 18.) Cellulose based membranes can remove substances as light as MW of 300, while TFC type membranes remove substances as light as MW of 200.

**Nanometer** - A measure of a wavelength in the electromagnetic spectrum. One nanometer equals 109 meter.

**Neutralization** - In general, the addition of either an acid or a base to a solution as required to produce a neutral solution. The use of alkaline or basic materials to neutralize the acidity of some waters is common practice in water conditioning.

**Organic Iron** - A ferrous iron molecule which is enveloped in an organically complex molecule that resists oxidation. May be present in water that contains a great deal of colored colloidal turbidity.

**Organics** - Any of the compounds whose chemical structure is based on carbon (e.g. carbon dioxide, wood, sugar, protein, plastics, methane, THM, TCE, etc.)

**Osmosis** - A process of diffusion of a solvent, such as water through a semipermeable membrane, which will transmit the solvent but impede most dissolved substances. The normal flow of solvent is from the dilute solution to the concentrated solution. (See Reverse Osmosis).

**Osmotic Pressure** - The pressure created by the tendency of water to flow in osmosis. Every 100 ppm of TDS generates about 1 pound per square inch (psi) of osmotic pressure. This osmotic pressure must first be overcome by the water pressure for the reverse osmosis membrane to be effective.

**Oxidation** - A chemical process in which electrons are removed from an atom, ion or compound. The addition of oxygen is a specific form of oxidation. Combustion is an extremely rapid form of oxidation while the rusting of iron is a slow form.

**Oxidizing Agents** - Any substance that oxidizes another substance and is itself reduced in the process.

Common examples include: oxygen, chlorine, potassium permanganate, hydrogen peroxide, iodine and ozone.

**Ozone (O<sub>3</sub>)** - An unstable form of oxygen occurring naturally in the upper atmosphere or artificially produced because of its strong oxidizing or disinfection characteristics.

**Particle Size** - As used in industry standards, the size of a particle suspended in water as determined by its smallest dimension, usually expressed in microns.

**Parts per Million (ppm)** - A common basis for reporting the results of water and waste water analysis, indicating the number of parts by weight of water or other solvent. In dilute water solutions, on part per million is practically equal to one milligram per liter, which is the preferred unit. 17.12 ppm equals one grain per U.S. gallon.

**Pathogen** - An organism which may cause disease.

**PCB** - Polychlorinated Biphenyls - A highly toxic organic contaminant found in water supplies which is suspected of causing cancer in humans.

**pH** - or the potential of hydrogen ion activity or concentration. pH is a measure of the intensity of the acidity or alkalinity of water on a scale from 0 to 14, with 7 being neutral. When acidity is increased, the hydrogen ion concentration increases, resulting in a lower pH value. Similarly, when alkalinity is increased, the hydrogen ion concentration decreases, resulting in higher pH. The pH value is an exponential function so that pH is 10 times as alkaline as pH 9 and 100 times as alkaline as pH 8. Similarly, a pH 4 is 100 times as acid as pH 6 and 1000 times as acid as pH 7.

**Potassium Chloride (KCl)** - a compound consisting of potassium and chloride, becoming increasingly popular as a substitute for sodium chloride in regenerating water softeners.

**Potassium Permanganate (KMnO<sub>4</sub>)** - A powerful oxidizing agent consisting of dark purple crystals with blue metallic sheen. Explosive in contact with sulfuric acid or hydrogen peroxide. Increases flammability of combustible materials. Used to renew the black manganese oxide coating on greensand media.

**Precipitate** - To cause a dissolved substance to form a solid particle which can be removed by settling or filtering such as in the removal of dissolved iron by oxidation, precipitation and filtration. The term is also used to refer to the solid formed and the condensation of water in the atmosphere to form rain or snow.

**Pre-treatment** - Whatever alterations of the raw feed water are required to prevent damage to the reverse osmosis membrane.

**Product Water** - The pure water that has been separated from the feed water stream by the reverse osmosis membrane.

**Pumping Rate** - The amount of actual water that can be drawn from a pressure system expressed in gallons per minute (gpm) obtained by dividing the drawdown (gallons) by the cycle time (seconds) and multiplying the result by 60 (seconds.)



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**Quartz** - A high grade of glass made using quartz sand.

**Raw Water** - Untreated water or any water before it reaches a specific water treatment device or process.

**Recovery** - The amount of product water as compared with the total amount of feed water. This will give a measure of the efficiency of operation. For example, starting with 10 gallons of feed water, if 6 gallons is product water and 4 gallons reject water, the recovery is 60%.

**Regenerant** - A solution of a chemical used to restore the capacity of an ion exchange or oxidation system.

**Regeneration** - In general, includes the backwash, brine and fresh water rinse steps necessary to prepare a water softener exchange bed for service after exhaustion. Specifically, the term may be applied to the “brine” step in which the sodium chloride solution is passed through the exchanger bed. The term may also be used for similar operations relating to demineralizers and certain filters.

**Rejection** - The percentage of TDS removed from the feed water. Typically greater than 90% rejection is achieved with reverse osmosis.

**Reject Water (same as Brine)** - That portion of the feed water that does not pass through the R.O. membrane and which carries the remaining impurities to the drain.

**Residual Chlorine** - Chlorine remaining in a treated water after a specified period of contact time to provide protection throughout a distribution system. The difference between the total chlorine added and that consumed by oxidizable matter.

**Resin** - Synthetic organic ion exchange material such as the high capacity cation exchange resin widely used in water softeners.

**Reverse Osmosis (R.O.)** - A process that reverses, by the application of pressure, the flow of water in the natural process of osmosis so that the water passes from the more concentrated to the more dilute solution through a semi-permeable membrane.

**Sediment** - The sum of particles of dirt, clay, silt and vegetation which float or are suspended in water and can be removed by mechanical filtration. See Turbidity.

**Semi-permeable** - A term which applies to special materials, both natural and synthetic, which allow certain substances such as water to pass through (to permeate) while blocking or rejecting the passage of other substances such as dissolved solids and organics.

**Service (Peak) Flow Rate** - The greatest amount of water (expressed in gallons per minute) that a particular filter can effectively process based on short pump runs of less than 10 to 15 minutes maximum.

**Sequester** - A chemical reaction in which certain ions are bound into a stable, water soluble compound, thus preventing undesirable action by the ions.

**Soap** - One of a class of chemical compounds which possesses cleaning properties, formed by the reaction of a fatty acid with a base of alkali. Sodium and potassium

soaps are soluble and useful but can be converted to insoluble calcium and magnesium soaps (curd) by the presence of these hardness ions in water.

**Soda Ash** - The common name for sodium carbonate, a chemical compound used as an alkaline builder in some soap and detergent formulations to neutralize acid water and in the lime soda ash water conditioning process.

**Total Hardness** - The sum of all hardness constituents in a water, expressed as their equivalent concentration of calcium carbonate. Primarily due to calcium and magnesium in solution but may include small amounts of metals, such as iron, which can act like calcium and magnesium in certain reactions (see Hardness.)

**Toxic** - Having an adverse physiological effect on man.

**Toxic Metals** - Elemental metals that find their way into water supplies from natural and industrial sources and which are detrimental to human health (e.g. lead, cadmium, mercury, arsenic.)

**Toxic Organics** - Carbon-based chemicals which are frequently found in our water supplies and are harmful to human health. They are usually from agricultural and industrial effluents and hazardous waste dumps (e.g. TCE, PCB, DCBP, pesticides, etc.)

**Turbidity** - Suspended biological, inorganic and organic particles in water which may be in sufficient amount to make the water seem cloudy (see Sediment.)

**Virus** - The smallest form of life known to be capable of producing disease of infection, usually considered to be of large molecular size. They multiply by assembly of component fragments in living cells, rather than by cell division as do most bacteria.

**Volatile Organic Chemical (VOC)** - Chemicals or compounds with boiling points below 212°F, facilitating their evaporation before water.

**Water Softening** - The removal of calcium and magnesium, the ions which are the principal cause of hardness, from water.

## NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. At the bottom of the page, there is a decorative blue wavy pattern that resembles a stylized wave or a soft gradient. The overall appearance is clean and professional, suitable for writing or printing.



NOTES

Lined area for notes on page 110.

NOTES

Lined area for notes on page 111.





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